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(54) Title: GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

(57) Abstract

This invention relates to novel human genes, to proteins expressed by the genes, and to variants of the proteins. The invention also relates to diagnostic and therapeutic agents related to the genes and proteins, including probes, antisense constructs, and antibodies. The invention further relates to polynucleotides differentially expressed in prostate cancer.

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GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

FIELD OF THE INVENTION

This invention relates to the area of diagnosis, prognosis, and treatment of cancer, tumor progression, hyperproliferative cell growth, and accompanying physical and biological manifestations. More specifically, the invention includes polynucleotides that are differentially regulated in prostatic disorders, such as metastatic prostate cancer, localized prostate cancer, and benign prostate hyperplasia (BPH).

BACKGROUND OF THE INVENTION

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, detection of genes or gene expression products up-regulated in hyperproliferative cells can be a predictive or diagnostic marker of the onset or the progression of cancer. Early diagnosis can be useful if the cancer, tumors, or hyperproliferating cells can be inhibited, removed, or terminated to prevent metastasis or recurrence of cancerous growth. Such early warning is of particular use to prostate cancer patients, where removal of the growth, tumor, or cells is beneficial if the disease is confined to the prostate. There is a need in the art for genes related to cancer and tumor progression.

SUMMARY OF THE INVENTION

The present invention provides methods and reagents for diagnosing cancer, tumor progression, hyperproliferative cell growth, and accompanying biological and physical manifestations. Reagents for such diagnostic kits include:

- (a) polynucleotides comprising a sequence capable of hybridizing to one or more of SEQ ID NO:1-339 or complement thereof;
- (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
- (c) antibodies capable of binding polypeptides comprising the amino acid sequence of (b).

The methods of diagnosis of the present invention include both nucleic acid assays and immunoassays.

In another embodiment, the present invention provides both compositions and methods for treating or ameliorating cancer, tumor progression, hyperproliferative cell growth, and accompanying biological and physical manifestations. The compositions for treatment or amelioration include:

- (a) polynucleotides comprising the sequence capable of hybridizing to one or more of the sequences shown in SEQ ID NO:1-339 and complement thereof, including antisense, ribozyme and gene therapy nucleic acid constructs:
- (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
- (c) antibodies capable of binding polypeptides of polypeptides comprising the amino acid sequence (b).

Methods of treatment or amelioration include administering compositions of polynucleotides, polypeptides, antibodies, or combinations thereof and can be used

- (a) to inhibit translation and/or transcription;
- (b) to inhibit biological activity;
- (c) as a vaccine antigen; and
- (d) as an immune system inducer.
- 20 Such compositions can be administered systemically or locally to the desired site.

In one embodiment, the present invention provides a composition comprising an isolated polynucleotide selected from the group consisting of

- (a) any one of SEQ ID NOs:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 250,
- 25 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polynucleotide that encodes a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of any one of the sequences of (a).

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Preferably, the nucleic acid obtained from the biological material of part (b) above is genomic DNA or mRNA. The nucleic acid can also be cDNA complementary to the mRNA.

Another embodiment of the invention is the use of the isolated polynucleotides or parts thereof as diagnostic probes or as primers.

In another embodiment, the present invention provides a composition comprising a polypeptide, wherein said polypeptide is selected from the group consisting of:

- (a) a polypeptide encoded by any one of SEQ ID Nos:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polypeptide encoded by full-length mRNA or cDNA corresponding to any one of SEQ ID NO:1-339; and
 - (c) a variant of the protein (a) or (b);

In certain preferred embodiments, the polynucleotide is operably linked to an expression control sequence. The invention further provides a host cell, including bacterial, yeast, insect and mammalian cells, transformed with the polynucleotide sequence. The invention also provides the full-length cDNA and the full length human gene corresponding to the polynucleotide.

Protein and polypeptide compositions of the invention may further comprise a pharmaceutically acceptable carrier. Compositions comprising an antibody that specifically reacts with such protein or polypeptide are also provided by the present invention.

The invention further relates to a polypeptide or nucleic acid obtained by transforming a host cell with nucleic acid comprising at least one of SEQ ID NO:1-339, culturing the host cell, and recovering the replicated nucleic acid, the expressed RNA, and/or the expressed polypeptide.

Brief Description of the Figures

Figure 1 provides the open reading frame for clone SL 195.

Figure 2 provides the open reading frame for clone SL 197.

Figure 3 provides the immunohistochemistry staining results for clone SL 5 expression in a variety of normal and tumor tissues.

Detailed Description of the Invention

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, a diagnostic assay to determine the stage of the disease also is useful in tailoring treatment of aggressive versus more mild cancer or tumor progression. The polynucleotide sequences and encoded polypeptides of the present invention are useful for these diagnostic or prognostic purposes.

Further, modulation of genes or gene expression products that are misregulated can be used to treat or ameliorate cancer, tumor progression,
hyperproliferative cell growth, and the accompanying physical and biological
manifestations. For example, the polynucleotide sequences provided herein as SEQ ID
NO:1-339, can be used to construct the following polynucleotide and polypeptide
compositions that are useful for treatment: antisense; ribozymes; antibodies; vaccine
antigens; and immune system inducers, to induce dendritic cells, for example.

Identified herein are polynucleotide sequences that are upregulated in a cancer cell line, more specifically in a prostate cancer cell line. Thus, the present invention relates to methods and reagents for diagnosis, and to methods and compositions for treatment.

I. <u>Use of Polynucleotides Having a Sequence of One or More of SEQ ID NO:1-339 to Obtain Full-Length cDNA and Full-Length Human Gene and Promoter Region</u>

Full-length cDNA molecules comprising the disclosed sequences are obtained as follows. The polynucleotide or a portion thereof comprising at least 12, 15, 18, or 20 nucleotides is used as a hybridization probe to detect hybridizing members of a cDNA library using probe design methods, cloning methods, and clone selection techniques as described in U.S. Patent No. 5,654,173, "Secreted Proteins and Polynucleotides Encoding Them," incorporated herein by reference. Libraries of cDNA are made from selected tissues, such as normal or tumor tissue, or from tissues of a

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mammal treated with, for example, a pharmaceutical agent. Preferably, the tissue is the same as that used to generate the polynucleotides, as both the polynucleotides and the cDNA represent expressed genes. Most preferably, the cDNA library is made from the biological material described herein in the Examples. Alternatively, many cDNA libraries are available commercially. (Sambrook et al., Molecular Cloning: A Laboratory Manual, 2nd Ed. (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989).

Members of the library that are larger than the polynucleotide, and preferably that contain the whole sequence of the native message, are obtained. In order to confirm that the entire cDNA has been obtained, RNA protection experiments are performed as follows. Hybridization of a full-length cDNA to an mRNA will protect the RNA from RNase degradation. If the cDNA is not full length, then the portions of the mRNA that are not hybridized will be subject to RNase degradation. This is assayed, as is known in the art, by changes in electrophoretic mobility on polyacrylamide gels, or by detection of released monoribonucleotides. Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual, 2nd Ed.* (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989). In order to obtain additional sequences 5' to the end of a partial cDNA, 5' RACE (PCR Protocols: A Guide to Methods and Applications (Academic Press, Inc. 1990)) is performed.

Genomic DNA is isolated using polynucleotides in a manner similar to the isolation of full-length cDNAs. Briefly, the polynucldotides, or portions thereof, are used as probes to libraries of genomic DNA. Preferably, the library is obtained from the cell type that was used to generate the polynucleotides, but this is not essential. Most preferably, the genomic DNA is obtained from the biological material described herein in the Examples. Such libraries may be in vectors suitable for carrying large segments of a genome, such as P1 or YAC, as described in detail in Sambrook *et al.*, 9.4-9.30. In addition, genomic sequences can be isolated from human BAC libraries, which are commercially available from Research Genetics, Inc., Huntville, Alabama, USA, for example. In order to obtain additional 5' or 3' sequences, chromosome walking is performed, as described in Sambrook *et al.*, such that adjacent and

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overlapping fragments of genomic DNA are isolated. These are mapped and pieced together, as is known in the art, using restriction digestion enzymes and DNA ligase.

Using the polynucleotides sequences of the invention, corresponding full length genes can be isolated using both classical and PCR methods to construct and probe cDNA libraries. Using either method, Northern blots, preferably, are performed on a number of cell types to determine which cell lines express the gene of interest at the highest rate.

Classical methods of constructing cDNA libraries are taught in Sambrook et al., supra. With these methods, cDNA can be produced from mRNA and inserted into viral or expression vectors. Typically, libraries of mRNA comprising poly(A) tails can be produced with poly(T) primers. Similarly, cDNA libraries can be produced using the instant sequences as primers.

PCR methods are used to amplify the members of a cDNA library that comprise the desired insert. In this case, the desired insert will contain sequence from the full length cDNA that corresponds to the instant ESTs. Such PCR methods include gene trapping and RACE methods. Gruber *et al.*, PCT WO 95/04745 and Gruber *et al.*, U.S. Pat. No. 5,500,356. Kits are commercially available to perform gene trapping experiments from, for example, Life Technologies, Gaithersburg, Maryland, USA. PCT Pub. No. WO 97/19110. (Apte and Siebert, *Biotechniques 15*:890-893, 1993; Edwards *et al.*, *Nuc. Acids Res. 19*:5227-5232, 1991).

The promoter region of a gene generally is located 5' to the initiation site for RNA polymerase II, and can be obtained by performing 5' RACE using a primer from the coding region of the gene. Alternatively, the cDNA can be used as a probe for the genomic sequence, and the region 5' to the coding region is identified by "walking up." If the gene is highly expressed or differentially expressed, the promoter from the gene may be of use in a regulatory construct for a heterologous gene.

Once the full-length cDNA or gene is obtained, DNA encoding variants can be prepared by site-directed mutagenesis, described in detail in Sambrook *et al.*, 15.3-15.63. The choice of codon or nucleotide to be replaced can be based on disclosure herein on optional changes in amino acids to achieve altered protein structure and/or function.

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As an alternative method to obtaining DNA or RNA from a biological material, nucleic acid comprising nucleotides having the sequence of one or more polynucleotides of the invention can be synthesized. Thus, the invention encompasses nucleic acid molecules ranging in length from 15 nucleotides (corresponding to at least 15 contiguous nucleotides of one of SEQ ID NO:1-339) up to a maximum length suitable for one or more biological manipulations, including replication and expression, of the nucleic acid molecule. The invention includes but is not limited to (a) nucleic acid having the size of a full gene, and comprising at least one of SEQ ID NO:1-339; (b) the nucleic acid of (a) also comprising at least one additional gene, operably linked to permit expression of a fusion protein; (c) an expression vector comprising (a) or (b); (d) a plasmid comprising (a) or (b); and (e) a recombinant viral particle comprising (a) or (b).

The sequence of a nucleic acid comprising at least 15 contiguous nucleotides of at least any one of SEQ ID NO:1-339, preferably the entire sequence of at least any one of SEQ ID NO:1-339, is not limited and can be any sequence of A, T, G, and/or C (for DNA) and A, U, G, and/or C (for RNA) or modified bases thereof, including inosine and pseudouridine. The choice of sequence will depend on the desired function and can be dictated by coding regions desired, the intron-like regions desired, and the regulatory regions desired.

Where the entire sequence of any one of SEQ ID NO:1-339 is within the nucleic acid, the nucleic acid obtained is referred to herein as a polynucleotide comprising the sequence of any one of SEQ ID NO:1-339.

II. Expression of Polypeptide Encoded by Full-Length cDNA or Full-Length Gene

The polynucleotide, the corresponding cDNA, or the full-length gene is used to express the partial or complete gene product. Appropriate polynucleotide constructs are purified using standard recombinant DNA techniques as described in, for example, Sambrook *et al.*, (1989) *Molecular Cloning: A Laboratory Manual*, 2nd ed. (Cold Spring Harbor Press, Cold Spring Harbor, New York). The polypeptides encoded by the polynucleotides are expressed in any expression system, including, for example,

bacterial, yeast, insect, amphibian and mammalian systems. Suitable vectors and host cells are described in U.S. Patent No. 5,654,173.

Bacteria. Expression systems in bacteria include those described in Chang et al., Nature (1978) 275:615, Goeddel et al., Nature (1979) 281:544, Goeddel et al., Nucleic Acids Res. (1980) 8:4057; EP 0 036,776, U.S. Patent No. 4,551,433, DeBoer et al., Proc. Natl. Acad. Sci. (USA) (1983) 80:21-25, and Siebenlist et al., Cell (1980) 20:269.

Yeast. Expression systems in yeast include those described in Hinnen et al., Proc. Natl. Acad. Sci. (USA) (1978) 75:1929; Ito et al., J. Bacteriol. (1983) 10 153:163; Kurtz et al., Mol. Cell. Biol. (1986) 6:142; Kunze et al., J. Basic Microbiol. (1985) 25:141; Gleeson et al., J. Gen. Microbiol. (1986) 132:3459, Roggenkamp et al., Mol. Gen. Genet. (1986) 202:302) Das et al., J. Bacteriol. (1984) 158:1165; De Louvencourt et al., J. Bacteriol. (1983) 154:737, Van den Berg et al., Bio/Technology (1990) 8:135; Kunze et al., J. Basic Microbiol. (1985) 25:141; Cregg et al., Mol. Cell. Biol. (1985) 5:3376, U.S. Patent Nos. 4,837,148 and 4,929,555; Beach and Nurse, 15 Nature (1981) 300:706; Davidow et al., Curr. Genet. (1985) 10:380, Gaillardin et al., Curr. Genet. (1985) 10:49, Ballance et al., Biochem. Biophys. Res. Commun. (1983) 112:284-289; Tilburn et al., Gene (1983) 26:205-221, Yelton et al., Proc. Natl. Acad. Sci. (USA) (1984) 81:1470-1474, Kelly and Hynes, EMBO J. (1985) 4:475479; EP 0 20 244,234, and WO 91/00357.

Insect Cells. Expression of heterologous genes in insects is accomplished as described in U.S. Patent No. 4,745,051, Friesen et al. (1986) "The Regulation of Baculovirus Gene Expression" in: The Molecular Biology Of Baculoviruses (W. Doerfler, ed.), EP 0 127,839, EP 0 155,476, and Vlak et al., J. Gen. Virol. (1988) 69:765-776, Miller et al., Ann. Rev. Microbiol. (1988) 42:177, Carbonell et al., Gene (1988) 73:409, Maeda et al., Nature (1985) 315:592-594, Lebacq-Verheyden et al., Mol. Cell. Biol. (1988) 8:3129; Smith et al., Proc. Natl. Acad. Sci. (USA) (1985) 82:8404, Miyajima et al., Gene (1987) 58:273; and Martin et al., DNA (1988) 7:99. Numerous baculoviral strains and variants and corresponding permissive insect host cells from hosts are described in Luckow et al., Bio/Technology

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(1988) 6:47-55, Miller et al., Generic Engineering (Setlow, J.K. et al. eds.), Vol. 8 (Plenum Publishing, 1986), pp. 277-279, and Maeda et al., Nature, (1985) 315:592-594.

Mammalian Cells. Mammalian expression is accomplished as described in Dijkema et al., EMBO J. (1985) 4:761, Gorman et al., Proc. Natl. Acad. Sci. (USA) (1982) 79:6777, Boshart et al., Cell (1985) 41:521 and U.S. Patent No. 4,399,216. Other features of mammalian expression are facilitated as described in Ham and Wallace, Meth. Enz. (1979) 58:44, Barnes and Sato, Anal. Biochem. (1980) 102:255, U.S. Patent Nos. 4,767,704, 4,657,866, 4,927,762, 4,560,655, WO 90/103430, WO 87/00195, and U.S. RE 30,985.

Polynucleotide molecules comprising the polynucleotide sequence are propagated by placing the molecule in a vector. Viral and non-viral vectors are used. including plasmids. The choice of plasmid will depend on the type of cell in which propagation is desired and the purpose of propagation. Certain vectors are useful for amplifying and making large amounts of the desired DNA sequence. Other vectors are suitable for expression in cells in culture. Still other vectors are suitable for transfer and expression in cells in a whole animal or person. The choice of appropriate vector is well within the skill of the art. Many such vectors are available commercially. The polynucleotide is inserted into a vector typically by means of DNA ligase attachment to a cleaved restriction enzyme site in the vector. Alternatively, the desired nucleotide sequence may be inserted by homologous recombination in vivo. Typically this is accomplished by attaching regions of homology to the vector on the flanks of the desired nucleotide sequence. Regions of homology are added by ligation of oligonucleotides, or by polymerase chain reaction using primers comprising both the region of homology and a portion of the desired nucleotide sequence, for example.

Polynucleotides are linked to regulatory sequences as appropriate to obtain the desired expression properties. These may include promoters (attached either at the 5' end of the sense strand or at the 3' end of the antisense strand), enhancers, terminators, operators, repressors, and inducers. The promoters may be regulated or constitutive. In some situations it may be desirable to use conditionally active promoters, such as tissue-specific or developmental stage-specific promoters. These are

linked to the desired nucleotide sequence using the techniques described above for linkage to vectors. Any techniques known in the art may be used.

When any of the above host cells, or other appropriate host cells or organisms, are used to replicate and/or express the polynucleotides or nucleic acids of the invention, the resulting replicated nucleic acid, RNA, expressed protein or polypeptide, is within the scope of the invention as a product of the host cell or organism. The product is recovered by any appropriate means known in the art.

Once the gene corresponding to the polypeptide is identified, its expression can be regulated in the cell to which the gene is native. For example, an endogenous gene of a cell can be regulated by an exogenous regulatory sequence as disclosed in U.S. Patent No. 5,641,670, "Protein Production and Protein Delivery."

Ribozymes

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Trans-cleaving catalytic RNAs (ribozymes) are RNA molecules possessing endoribonuclease activity. Ribozymes are specifically designed for a particular target, and the target message must contain a specific nucleotide sequence. They are engineered to cleave any RNA species site-specifically in the background of cellular RNA. The cleavage event renders the mRNA unstable and prevents protein expression. Importantly, ribozymes can be used to inhibit expression of a gene of unknown function for the purpose of determining its function in an in vitro or in vivo context, by detecting the phenotypic effect.

One commonly used ribozyme motif is the hammerhead, for which the substrate sequence requirements are minimal. Design of the hammerhead ribozyme is disclosed in Usman et al., Current Opin. Struct. Biol. (1996) 6:527-533. Usman also discusses the therapeutic uses of ribozymes. Ribozymes can also be prepared and used as described in Long et al., FASEB J. (1993) 7:25; Symons, Ann. Rev. Biochem. (1992) 61:641; Perrotta et al., Biochem. (1992) 31:16-17; Ojwang et al., Proc. Natl. Acad. Sci. (USA) (1992) 89:10802-10806; and U.S. Patent No. 5,254,678. Ribozyme cleavage of HIV-I RNA is described in U.S. Patent No. 5,144,019; methods of cleaving RNA using ribozymes is described in U.S. Patent No. 5,116,742; and methods for increasing the specificity of ribozymes are described in U.S. Patent No. 5,225,337 and Koizumi et al.,

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Nucleic Acid Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hammerhead structure are also described by Koizumi et al., Nucleic Acids Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hairpin structure are described by Chowrira and Burke, Nucleic Acids Res. (1992) 20:2835. Ribozymes can also be made by rolling transcription as described in Daubendiek and Kool, Nat. Biotechnol. (1997) 15(3):273-277.

The hybridizing region of the ribozyme may be modified or may be prepared as a branched structure as described in Horn and Urdea, *Nucleic Acids Res.* (1989) 17:6959-67. The basic structure of the ribozymes may also be chemically altered in ways familiar to those skilled in the art, and chemically synthesized ribozymes can be administered as synthetic oligonucleotide derivatives modified by monomeric units. In a therapeutic context, liposome mediated delivery of ribozymes improves cellular uptake, as described in Birikh *et al.*, *Eur. J. Biochem.* (1997) 245:1-16.

Therapeutic and functional genomic applications of ribozymes proceed beginning with knowledge of a portion of the coding sequence of the gene to be inhibited. Thus, for many genes, a polynucleotide sequence as disclosed herein provides adequate sequence for constructing an effective ribozyme. A target cleavage site is selected in the target sequence, and a ribozyme is constructed based on the 5' and 3' nucleotide sequences that flank the cleavage site. Retroviral vectors are engineered to express monomeric and multimeric hammerhead ribozymes targeting the mRNA of the target coding sequence. These monomeric and multimeric ribozymes are tested in vitro for an ability to cleave the target mRNA. A cell line is stably transduced with the retroviral vectors expressing the ribozymes, and the transduction is confirmed by Northern blot analysis and reverse-transcription polymerase chain reaction (RT-PCR). The cells are screened for inactivation of the target mRNA by such indicators as reduction of expression of disease markers or reduction of the gene product of the target mRNA.

Antisense

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Antisense nucleic acids are designed to specifically bind to RNA, resulting in the formation of RNA-DNA or RNA-RNA hybrids, with an arrest of DNA replication, reverse transcription or messenger RNA translation. Antisense polynucleotides based on a selected sequence can interfere with expression of the corresponding gene. Antisense polynucleotides are typically generated within the cell by expression from antisense constructs that contain the antisense EST strand as the transcribed strand. Antisense polynucleotides will bind and/or interfere with the translation of the corresponding mRNA. The expression products of control cells and cells treated with the antisense construct are compared to detect the protein product of the gene corresponding to the polynucleotide. The protein is isolated and identified using routine biochemical methods.

Antisense therapy for a variety of cancers is in clinical phase and has been discussed extensively in the literature. Reed reviewed antisense therapy directed at the Bcl-2 gene in tumors; gene transfer-mediated overexpression of Bcl-2 in tumor cell lines conferred resistance to many types of cancer drugs. (Reed, J.C., N.C.I. (1997) 89:988-990). The potential for clinical development of antisense inhibitors of ras is discussed by Cowsert, L.M., Anti-Cancer Drug Design (1997) 12:359-371. Additional important antisense targets include leukemia (Geurtz, A.M., Anti-Cancer Drug Design (1997) 12:341-358); human C-ref kinase (Monia, B.P., Anti-Cancer Drug Design (1997) 12:327-339); and protein kinase C (McGraw et al., Anti-Cancer Drug Design (1997) 12:315-326.

Given the extensive background literature and clinical experience in antisense therapy, one skilled in the art can use selected polynucleotides of the invention as additional potential therapeutics. The choice of polynucleotide can be narrowed by first testing them for binding to "hot spot" regions of the genome of cancerous cells. If a polynucleotide is identified as binding to a "hot spot", testing the polynucleotide as an antisense compound in the corresponding cancer cells clearly is warranted.

Ogunbiyi et al., Gastroenterology (1997) 113(3):761-766 describe prognostic use of allelic loss in colon cancer; Barks et al., Genes, Chromosomes, and

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Cancer (1997) 19(4):278-285 describe increased chromosome copy number detected by FISH in malignant melanoma; Nishizake et al., Genes, Chromosomes, and Cancer (1997) 19(4):267-272 describe genetic alterations in primary breast cancer and their metastases and direct comparison using modified comparative genome hybridization; and Elo et al., Cancer Research (1997) 57(16):3356-3359 disclose that loss of heterozygosity at 16z24.1-q24.2 is significantly associated with metastatic and aggressive behavior of prostate cancer.

Dominant Negative Mutations

Dominant negative mutations are readily generated for corresponding proteins that are active as homomultimers. A mutant polypeptide will interact with wild-type polypeptides (made from the other allele) and form a non-functional multimer. Thus, a mutation is in a substrate-binding domain, a catalytic domain, or a cellular localization domain. Preferably, the mutant polypeptide will be overproduced. Point mutations are made that have such an effect. In addition, fusion of different polypeptides of various lengths to the terminus of a protein can yield dominant negative mutants. General strategies are available for making dominant negative mutants. See Herskowitz, *Nature* (1987) 329:219-222. Such a technique can be used for creating a loss of function mutation, which is useful for determining the function of a protein.

<u>Identification of Secreted and Membrane-Bound Polypeptides</u>

Both secreted and membrane-bound polypeptides of the present invention are of interest. For example, levels of secreted polypeptides can be assayed conveniently in body fluids, such as blood, urine, prostatic fluid and semen. Membrane-bound polypeptides are useful for constructing vaccine antigens or inducing an immune response. Such antigens would comprise all or part of the extracellular region of the membrane-bound polypeptides.

Because both secreted and membrane-bound polypeptides comprise a fragment of contiguous hydrophobic amino acids, hydrophobicity predicting algorithms can be used to identify such polypeptides.

A signal sequence is usually encoded by both secreted and membrane-30 bound polypeptide genes to direct a polypeptide to the surface of the cell. The signal

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sequence usually comprises a stretch of hydrophobic residues. Such signal sequences can fold into helical structures.

Membrane-bound polypeptides typically comprise at least one transmembrane region that possesses a stretch of hydrophobic amino acids that can transverse the membrane. Some transmembrane regions also exhibit a helical structure.

Hydrophobic fragments within a polypeptide can be identified by using computer algorithms. Such algorithms include Hopp & Woods, <u>Proc. Natl. Acad. Sci. USA 78</u>: 3824-3828 (1981); Kyte & Doolittle, <u>J. Mol. Biol. 157</u>: 105-132 (1982); and RAOAR algorithm, Degli Esposti *et al.*, <u>Eur. J. Biochem. 190</u>: 207-219 (1990).

Another method of identifying secreted and membrane-bound polypeptides is to translate the present polynucleotides, SEQ ID NO:1-339, in all six frames and determine if at least 8 contiguous hydrophobic amino acids are present. Those translated polypeptides with at least 8; more typically, 10; even more typically, 12 contiguous hydrophobic amino acids are considered to be either a putative secreted or membrane bound polypeptide. Hydrophobic amino acids include alanine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, threonine, tryptophan, tyrosine, and valine.

Putative secreted and/or membrane-bound polypeptides are encoded by the sequences of the following clones: SL-5, SL-6, SL-9, SL-11, SL-13, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, and SL-177.

Construction of Polypeptides of the Invention and Variants Thereof

The polypeptides of the invention include those encoded by the disclosed polynucleotides. These polypeptides can also be encoded by nucleic acids that, by virtue of the degeneracy of the genetic code, are not identical in sequence to the disclosed polynucleotides. Thus, the invention includes within its scope nucleic acids comprising polynucleotides encoding a protein or polypeptide expressed by a polynucleotide having the sequence of any one of SEQ ID NO:1-339. Also within the scope of the invention are variants; variants of polypeptides include mutants, fragments, and fusions. Mutants can include amino acid substitutions, additions or deletions. The amino acid substitutions can be conservative amino acid substitutions or substitutions to

eliminate non-essential amino acids, such as to alter a glycosylation site, a phosphorylation site or an acetylation site, or to minimize misfolding by substitution or deletion of one or more cysteine residues that are not necessary for function. Conservative amino acid substitutions are those that preserve the general charge, hydrophobicity/hydrophilicity, and/or steric bulk of the amino acid substituted. For example, substitutions between the following groups are conservative: Gly/Ala, Val/Ile/Leu, Asp/Glu, Lys/Arg, Asn/Gln, Ser/Cys,Thr, and Phe/Trp/Tyr.

Cysteine-depleted muteins are variants within the scope of the invention. These variants can be constructed according to methods disclosed in U.S. Patent No. 4,959,314, "Cysteine-Depleted Muteins of Biologically Active Proteins." The patent discloses how to substitute other amino acids for cysteines, and how to determine biological activity and effect of the substitution. Such methods are suitable for proteins according to this invention that have cysteine residues suitable for such substitutions, for example to eliminate disulfide bond formation.

The protein variants described herein are encoded by polynucleotides that are within the scope of the invention. The genetic code can be used to select the appropriate codons to construct the corresponding variants.

The invention encompasses polynucleotide sequences having at least 65% sequence identity to any one of SEQ ID NOs:1-339 as determined by the Smith-Waterman homology search algorithm as implemented in MSPRCH program (Oxford Molecular) using an affine gap search with the following search parameters: gap open penalty of 12, and gap extension penalty of 1.

Use of the Polynucleotides as Probes, in Mapping, and in Tissue Profiling

Probes

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Polynucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence of a polynucleotide of SEQ ID NO:1-339 are used for a variety of purposes, including identification of human chromosomes and determining transcription levels.

The nucleotide probes are labeled, for example, with a radioactive, 30 fluorescent, biotinylated, or chemiluminescent label, and detected by well known

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methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations which are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide should provide a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with other unrelated sequences.

In a non-limiting example, commercial programs are available for identifying regions of chromosomes commonly associated with disease, such as cancer. Polynucleotides of the invention can be used to probe these regions. For example, if through profile searching a polynucleotide is identified as corresponding to a gene encoding a kinase, its ability to bind to a cancer-related chromosomal region will suggest its role as a kinase in one or more stages of tumor cell development/growth. Although some experimentation would be required to elucidate the role, the polynucleotide constitutes a new material for isolating a specific protein that has potential for developing a cancer diagnostic or therapeutic.

Nucleotide probes are used to detect expression of a gene corresponding to the polynucleotide. For example, in Northern blots, mRNA is separated electrophoretically and contacted with a probe. A probe is detected as hybridizing to an mRNA species of a particular size. The amount of hybridization is quantitated to determine relative amounts of expression, for example under a particular condition. Probes are also used to detect products of amplification by polymerase chain reaction. The products of the reaction are hybridized to the probe and hybrids are detected. Probes are used for in situ hybridization to cells to detect expression. Probes can also be used in vivo for diagnostic detection of hybridizing sequences. Probes are typically labeled with a radioactive isotope. Other types of detectable labels may be used such as chromophores, fluors, and enzymes.

Expression of specific mRNA can vary in different cell types and can be tissue specific. This variation of mRNA levels in different cell types can be exploited with nucleic acid probe assays to determine tissue types. For example, PCR, branched DNA probe assays, or blotting techniques utilizing nucleic acid probes substantially

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identical or complementary to polynucleotides listed in the Sequence Listing can determine the presence or absence of cDNA or mRNA related to the polynucleotides of the invention.

Examples of a nucleotide hybridization assay are described in Urdea *et al.*, PCT WO92/02526 and Urdea *et al.*, U.S. Patent No. 5,124,246, both incorporated herein by reference. The references describe an example of a sandwich nucleotide hybridization assay.

Alternatively, the Polymerase Chain Reaction (PCR) is another means for detecting small amounts of target nucleic acids, as described in Mullis *et al.*, *Meth. Enzymol.* (1987) 155:335-350; U.S. Patent No. 4,683,195; and U.S. Patent No. 4,683,202, all incorporated herein by reference. Two primer polynucleotides nucleotides hybridize with the target nucleic acids and are used to prime the reaction. The primers may be composed of sequence within or 3' and 5' to the polynucleotides of the Sequence Listing. Alternatively, if the primers are 3' and 5' to these polynucleotides, they need not hybridize to them or the complements. A thermostable polymerase creates copies of target nucleic acids from the primers using the original target nucleic acids as a template. After a large amount of target nucleic acids is generated by the polymerase, it is detected by methods such as Southern blots. When using the Southern blot method, the labeled probe will hybridize to a polynucleotide of the Sequence Listing or complement.

Furthermore, mRNA or cDNA can be detected by traditional blotting techniques described in Sambrook *et al.*, "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989). mRNA or cDNA generated from mRNA using a polymerase enzyme can be purified and separated using gel electrophoresis. The nucleic acids on the gel are then blotted onto a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe and then washed to remove any unhybridized probe. Next, the duplexes containing the labeled probe are detected. Typically, the probe is labeled with radioactivity.

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Mapping

Polynucleotides of the present invention are used to identify a chromosome on which the corresponding gene resides. Using fluorescence in situ hybridization (FISH) on normal metaphase spreads, comparative genomic hybridization allows total genome assessment of changes in relative copy number of DNA sequences. See Schwartz and Samad, Current Opinions in Biotechnology (1994) 8:70-74; Kallioniemi et al., Seminars in Cancer Biology (1993) 4:41-46; Valdes and Tagle, Methods in Molecular Biology (1997) 68:1, Boultwood, ed., Human Press, Totowa, NJ.

Preparations of human metaphase chromosomes are prepared using standard cytogenetic techniques from human primary tissues or cell lines. Nucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence shown in the Sequence Listing are used to identify the corresponding chromosome. The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations that are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide-related gene provides a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with non-EST coding sequences.

Polynucleotides are mapped to particular chromosomes using, for example, radiation hybrids or chromosome-specific hybrid panels. See Leach et al., Advances in Genetics, (1995) 33:63-99; Walter et al., Nature Genetics (1994) 7:22-28; Walter and Goodfellow, Trends in Genetics (1992) 9:352. Such mapping can be useful in identifying the function of the polynucleotide-related gene by its proximity to other genes with known function. Function can also be assigned to the related gene when particular syndromes or diseases map to the same chromosome.

Tissue Profiling

The polynucleotides of the present invention can be used to determine the tissue type from which a given sample is derived. For example, a metastatic lesion

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is identified by its developmental organ or tissue source by identifying the expression of a particular marker of that organ or tissue. If a polynucleotide is expressed only in a specific tissue type, and a metastatic lesion is found to express that polynucleotide, then the developmental source of the lesion has been identified. Expression of a particular polynucleotide is assayed by detection of either the corresponding mRNA or the protein product. Immunological methods, such as antibody staining, are used to detect a particular protein product. Hybridization methods may be used to detect particular mRNA species, including but not limited to in situ hybridization and Northern blotting.

Use of Polymorphisms

A polynucleotide will be useful in forensics, genetic analysis, mapping, and diagnostic applications if the corresponding region of a gene is polymorphic in the human population. A particular polymorphic form of the polynucleotide may be used to either identify a sample as deriving from a suspect or rule out the possibility that the sample derives from the suspect. Any means for detecting a polymorphism in a gene are used, including but not limited to electrophoresis of protein polymorphic variants, differential sensitivity to restriction enzyme cleavage, and hybridization to an allele-specific probe.

Use of Polynucleotides to Raise Antibodies

Expression products of a polynucleotide, the corresponding mRNA or cDNA, or the corresponding complete gene are prepared and used for raising antibodies for experimental, diagnostic, and therapeutic purposes. The polynucleotide or related cDNA is expressed as described above, and antibodies are prepared. These antibodies are specific to an epitope on the polynucleotide-encoded polypeptide, and can precipitate or bind to the corresponding native protein in a cell or tissue preparation or in a cell-free extract of an in vitro expression system.

Immunogens for raising antibodies are prepared by mixing the polypeptides encoded by the polynucleotide of the present invention with adjuvants. Alternatively, polypeptides are made as fusion proteins to larger immunogenic proteins. Polypeptides are also covalently linked to other larger immunogenic proteins, such as keyhole limpet hemocyanin. Immunogens are typically administered intradermally,

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subcutaneously, or intramuscularly. Immunogens are administered to experimental animals such as rabbits, sheep, and mice, to generate antibodies. Optionally, the animal spleen cells are isolated and fused with myeloma cells to form hybridomas which secrete monoclonal antibodies. Such methods are well known in the art. According to another method known in the art, the polynucleotide is administered directly, such as by intramuscular injection, and expressed in vivo. The expressed protein generates a variety of protein-specific immune responses, including production of antibodies, comparable to administration of the protein.

Preparations of polyclonal and monoclonal antibodies specific for polynucleotide-encoded proteins and polypeptides are made using standard methods known in the art. The antibodies specifically bind to epitopes present in the polypeptides encoded by polynucleotides disclosed in the Sequence Listing. Typically, at least 6, 8, 10, or 12 contiguous amino acids are required to form an epitope. However, epitopes which involve non-contiguous amino acids may require more, for example at least 15, 25, or 50 amino acids. A short sequence of a polynucleotide may then be unsuitable for use as an epitope to raise antibodies for identifying the corresponding novel protein, because of the potential for cross-reactivity with a known protein. However, the antibodies may be useful for other purposes, particularly if they identify common structural features of a known protein and a novel polypeptide encoded by a polynucleotide of the invention.

Antibodies that specifically bind to human polynucleotide-encoded polypeptides should provide a detection signal at least 5-, 10-, or 20-fold higher than a detection signal provided with other proteins when used in Western blots or other immunochemical assays. Preferably, antibodies that specifically bind polypeptides do not detect other proteins in immunochemical assays and can immunoprecipitate EST-encoded proteins from solution. For such immunoassays, any type of samples can be used, including tissue, organs, cells, urine, blood, prostatic fluid or semen.

Of interest are antibodies to the secreted polypeptides encoded by the present polynucleotide sequences, SEQ ID NO:1-339. Antibodies to secreted polypeptides can be used to test body fluids, such as blood, urine, prostatic fluid and semen.

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To test for the presence of serum antibodies to the polypeptide in a human population, human antibodies are purified by methods well known in the art. Preferably, the antibodies are affinity purified by passing antiserum over a column to which a protein, polypeptide, or fusion protein is bound. The bound antibodies can then be eluted from the column, for example using a buffer with a high salt concentration.

In addition to the antibodies discussed above, genetically engineered antibody derivatives are made, such as single chain antibodies or humanized antibodies.

Antibodies to the polypeptides encoded by one or more of SEQ ID NO:1-339 also are contemplated for therapeutic compositions and uses. For example, antibodies directed to membrane-bound polypeptides that are up-regulated in cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations can be constructed. Antibodies can provide a useful therapeutic in inhibiting cell growth or inducing an immune reaction to cancer, tumor, or hyperproliferating cells. Typically, such antibodies are directed the extracellular regions of the membrane-bound polypeptide. The borders of such regions can be determined by identifying the location of the hydrophobic transmembrane fragment(s) in the encoded polypeptides of the present invention.

Exemplary antibodies were prepared using two sequences from clone SL-5: H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKR-NSRTTRRSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry was performed on a variety of tumor tissues and corresponding normal tissue. The results are shown in Figure 3, and discussed in the Examples. These polypeptides are useful for detecting a higher level of expression of clone SL-5 in tumor tissues.

25 <u>Use of Polynucleotides to Construct Arrays for Diagnostics</u>

The present polynucleotide sequences and gene products are useful for determining the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations. Specifically, the polynucleotides and encoded polypeptides of the instant invention can be utilized to

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determine the occurrence of prostatic disorders, such as BPH or localized prostate cancer.

A number of prostatic disorders exist, including adenocarcinoma, BPH, histologic prostate cancer, prostatic intraepithelial neoplasia, clinical prostate cancer, incidental prostate cancer, and localized prostate cancer. BPH is a common prostatic disorder in men which becomes clinically manifest usually after age fifty. In BPH, hyperplastic growth of prostatic cells in the periurethral glandular tissue in the central zone of the prostate gland cause an enlarged prostate which can compress or elongate the urethra and produce symptoms of urethral obstruction that may progress to urinary retention or to a constellation of symptoms known as prostatism. A host of physical manifestations can accompany prostatic disorders including: impotency, reduced urinary flow, hesitancy in initiating voiding, postvoid dribbling, a sensation of incomplete bladder emptying, and development of bladder or high urinary tract infections.

To determine the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, the levels of polynucleotides and/or encoded polypeptides of the present invention in a sample are compared to the levels in a normal control of body tissues, cells, organs, or fluids. The normal control can include a pool of cells from a particular organ or tissue or tissues and/or cells from throughout the body. Either the immunoassays described above or the nucleic acid assays described below can be used for such measurements.

Any observed difference between the sample and normal control can indicate the occurrence of disease or disorder. Typically, if the levels of the polynucleotides and the encoded polypeptides of the present invention are higher than those found in the normal control, the results indicate the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations.

In addition, the present polynucleotides can be useful to diagnose the severity as well as the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, including prostatic disorders. For example, the greater the difference observed in the sample versus the

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normal control of the present polynucleotides or encoded polypeptides, the greater the severity of the disorder, in particular, when higher levels as compared to a normal control are observed.

The present polynucleotides, as shown in SEQ ID NO:1-339, were expressed at higher levels in a prostate cancer cell line versus a normal prostate 5 epithelial cell line.

Polynucleotide arrays provide a high throughput technique that can assay a large number of polynucleotide sequences in a sample. This technology can be used as a diagnostic and as a tool to test for differential expression to determine function of an encoded protein.

To create arrays, polynucleotide probes are spotted onto a substrate in a two-dimensional matrix or array. Samples of polynucleotides can be labeled and then hybridized to the probes. Double stranded polynucleotides, comprising the labeled sample polynucleotides bound to probe polynucleotides, can be detected once the unbound portion of the sample is washed away.

The probe polynucleotides can be spotted on substrates including glass, nitrocellulose, etc. The probes can be bound to the substrate by either covalent bonds or by non-specific interactions, such as hydrophobic interactions. The sample polynucleotides can be labeled using radioactive labels, fluorophors, etc.

20 Techniques for constructing arrays and methods of using these arrays are described in EP No. 0 799 897; PCT No. WO 97/29212; PCT No. WO 97/27317; EP No. 0 785 280; PCT No. WO 97/02357; U.S. Pat. No. 5,593,839; U.S. Pat. No. 5,578,832; EP No. 0 728 520; U.S. Pat. No. 5,599,695; EP No. 0 721 016; U.S. Pat. No. 5,556,752; PCT No. WO 95/22058; and U.S. Pat. No. 5,631,734.

25 Further, arrays can be used to examine differential expression of genes and can be used to determine gene function. For example, arrays of the instant polynucleotide sequences can be used to determine if any of the EST sequences are differentially expressed between normal cells and cancer cells, for example. High expression of a particular message in a cancer cell, which is not observed in a corresponding normal cell, can indicate a cancer specific protein.

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Differential Expression

The present invention also provides a method to identify abnormal or diseased tissue in a human. For polynucleotides corresponding to profiles of protein families as described above, the choice of tissue may be dictated by the putative biological function. The expression of a gene corresponding to a specific polynucleotide is compared between a first tissue that is suspected of being diseased and a second, normal tissue of the human. The normal tissue is any tissue of the human, especially those that express the polynucleotide-related gene including, but not limited to, brain, thymus, testis, heart, prostate, placenta, spleen, small intestine, skeletal muscle, pancreas, and the mucosal lining of the colon.

The polynucleotide-related genes in the two tissues are compared by any means known in the art. For example, the two genes are sequenced, and the sequence of the gene in the tissue suspected of being diseased is compared with the gene sequence in the normal tissue. The polynucleotide-related genes, or portions thereof, in the two tissues are amplified, for example using nucleotide primers based on the nucleotide sequence shown in the Sequence Listing, using the polymerase chain reaction. The amplified genes or portions of genes are hybridized to nucleotide probes selected from the same nucleotide sequence shown in the Sequence Listing. A difference in the nucleotide sequence of the polynucleotide-related gene in the tissue suspected of being diseased compared with the normal nucleotide sequence suggests a role of the polynucleotide-encoded proteins in the disease, and provides a lead for preparing a therapeutic agent. The nucleotide probes are labeled by a variety of methods, such as radiolabeling, biotinylation, or labeling with fluorescent or chemiluminescent tags, and detected by standard methods known in the art.

Alternatively, polynucleotide-related mRNA in the two tissues is compared. PolyA+RNA is isolated from the two tissues as is known in the art. For example, one of skill in the art can readily determine differences in the size or amount of polynucleotide-related mRNA transcripts between the two tissues using Northern blots and nucleotide probes selected from the nucleotide sequence shown in the Sequence Listing. Increased or decreased expression of an polynucleotide-related mRNA in a tissue sample suspected of being diseased, compared with the expression of

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the same polynucleotide-related mRNA in a normal tissue, suggests that the expressed protein has a role in the disease, and also provides a lead for preparing a therapeutic agent.

Any method for analyzing proteins is used to compare two polynucleotide-encoded proteins from matched samples. The sizes of the proteins in the two tissues are compared, for example, using antibodies of the present invention to detect polynucleotide-encoded proteins in Western blots of protein extracts from the two tissues. Other changes, such as expression levels and subcellular localization, can also be detected immunologically, using antibodies to the corresponding protein. A higher or lower level of polynucleotide-encoded protein expression in a tissue suspected of being diseased, compared with the same polynucleotide-encoded protein expression level in a normal tissue, is indicative that the expressed protein has a role in the disease, and provides another lead for preparing a therapeutic agent.

Similarly, comparison of polynucleotide gene sequences or of polynucleotide gene expression products, e.g., mRNA and protein, between a human tissue that is suspected of being diseased and a normal tissue of a human, are used to follow disease progression or remission in the human. Such comparisons of polynucleotide-related genes, mRNA, or protein are made as described above.

For example, increased or decreased expression of the polynucleotide-related gene in the tissue suspected of being neoplastic can indicate the presence of neoplastic cells in the tissue. The degree of increased expression of the polynucleotide gene in the neoplastic tissue relative to expression of the gene in normal tissue, or differences in the amount of increased expression of the polynucleotide gene in the neoplastic tissue over time, is used to assess the progression of the neoplasia in that tissue or to monitor the response of the neoplastic tissue to a therapeutic protocol over time. The expression pattern of any two cell types can be compared, such as low and high metastatic tumor cell lines, or cells from tissue which have and have not been exposed to a therapeutic agent.

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Screening for Peptide Analogs and Antagonists

Polypeptides encoded by the instant polynucleotides and corresponding full length genes can be used to screen peptide libraries to identify binding partners, such as receptors, from among the encoded polypeptides.

Such binding partners can be useful in treating cancer, tumor progression, hyperproliferative cell growth, and/or accompanying biological or physical manifestations. For example, peptides or other compounds that are capable of binding or interacting with membrane-bound polypeptides encoded by one or more of SEQ ID NO:1-339, can be useful as a therapeutic. Also, peptides or other compounds capable of altering the conformation of any of the encoded polypeptides by one or more of SEQ ID NO:1-339 can inhibit biological activity and be useful as a therapeutic.

A library of peptides may be synthesized following the methods disclosed in U.S. Pat. No. 5,010,175, and in PCT WO91/17823.

Peptide agonists or antagonists are screened using any available method, such as signal transduction, antibody binding, receptor binding, mitogenic assays, chemotaxis assays, etc. The methods described herein are presently preferred. The assay conditions ideally should resemble the conditions under which the native activity is exhibited *in vivo*, that is, under physiologic pH, temperature, and ionic strength. Suitable agonists or antagonists will exhibit strong inhibition or enhancement of the native activity at concentrations that do not cause toxic side effects in the subject. Agonists or antagonists that compete for binding to the native polypeptide may require concentrations equal to or greater than the native concentration, while inhibitors capable of binding irreversibly to the polypeptide may be added in concentrations on the order of the native concentration.

The end results of such screening and experimentation will be at least one novel polypeptide binding partner, such as a receptor, encoded by a cDNA polynucleotide or gene of the invention, and at least one peptide agonist or antagonist of the novel binding partner. Such agonists and antagonists can be used to modulate, enhance, or inhibit receptor function in cells to which the receptor is native, or in cells that possess the receptor as a result of genetic engineering. Further, if the novel receptor shares biologically important characteristics with a known receptor,

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information about agonist/antagonist binding may help in developing improved agonists/antagonists of the known receptor.

Therapeutics, whether polynucleotide or polypeptide or small molecule, can be tested, for example, in the mouse tumor assay described in Pei *et al.*, Mol. Endo. 11: 433-441 (1997).

Other models for testing polynucleotides, polypeptides, antibodies, or small molecules useful for treatment include: animal models and cell lines disclosed in Bosland, *Encyclopedia of Cancer*, Volume II, pages 1283 to 1296 (1997) by Academic Press. Other useful cell lines are described in Brothman, *Encyclopedia of Cancer*, Volume II, pages 1303 to 1313 (1997) by Academic Press

Pharmaceutical Compositions and Therapeutic Uses

Pharmaceutical compositions can comprise polypeptides, antibodies, or polynucleotides of the claimed invention. The pharmaceutical compositions will comprise a therapeutically effective amount of either polypeptides, antibodies, or polynucleotides of the claimed invention.

The term "therapeutically effective amount" as used herein refers to an amount of a therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature. The precise effective amount for a subject will depend upon the subject's size and health, the nature and extent of the condition, and the therapeutics or combination of therapeutics selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation can be determined by routine experimentation and is within the judgment of the clinician. Specifically, the compositions of the present invention can be used to treat, ameliorate, modulate, or prevent cancer, tumor progression, hyperproliferative cell growth and/or accompanying biological or physical manifestations, including prostatic disorders.

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For purposes of the present invention, an effective dose will be from about 0.01 mg/kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the polynucleotide, polypeptide or antibody compositions in the individual to which it is administered.

A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents. The term refers to any pharmaceutical carrier that does not itself induce the production of antibodies harmful to the individual receiving the composition, and which may be administered without undue toxicity. Suitable carriers may be large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are well known to those of ordinary skill in the art.

Pharmaceutically acceptable salts can be used therein, for example, mineral acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in *Remington's Pharmaceutical Sciences* (Mack Pub. Co., N.J. 1991).

Pharmaceutically acceptable carriers in therapeutic compositions may contain liquids such as water, saline, glycerol and ethanol. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared. Liposomes are included within the definition of a pharmaceutically acceptable carrier.

Delivery Methods

Once formulated, the polynucleotide compositions of the invention can be (1) administered directly to the subject; (2) delivered ex vivo, to cells derived from the subject; or (3) delivered in vitro for expression of recombinant proteins.

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Direct delivery of the compositions will generally be accomplished by injection, either subcutaneously, intraperitoneally, intravenously or intramuscularly, or delivered to the interstitial space of a tissue. The compositions can also be administered into a tumor or lesion. Other modes of administration include oral and pulmonary administration, suppositories, and transdermal applications, needles, and gene guns or hyposprays. Dosage treatment may be a single dose schedule or a multiple dose schedule.

Methods for the ex vivo delivery and reimplantation of transformed cells into a subject are known in the art and described in e.g., International Publication No. WO 93/14778. Examples of cells useful in ex vivo applications include, for example, stem cells, particularly hematopoetic, lymph cells, macrophages, dendritic cells, or tumor cells.

Generally, delivery of nucleic acids for both ex vivo and in vitro applications can be accomplished by, for example, dextran-mediated transfection, calcium phosphate precipitation; polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei, all well known in the art.

If a polynucleotide-related gene correlates with a proliferative disorder, such as neoplasia, dysplasia, and hyperplasia, the disorder may be amenable to treatment by administration of a therapeutic agent based on the polynucleotide or corresponding polypeptide.

Preparation of antisense polypeptides is discussed above. Neoplasias that are treated with the antisense composition include, but are not limited to, cervical cancers, melanomas, colorectal adenocarcinomas, Wilms' tumor, retinoblastoma, sarcomas, myosarcomas, lung carcinomas, leukemias, such as chronic myelogenous leukemia, promyelocytic leukemia, monocytic leukemia, and myeloid leukemia, and lymphomas, such as histiocytic lymphoma. Proliferative disorders that are treated with the therapeutic composition include disorders such as anhydric hereditary ectodermal dysplasia, congenital alveolar dysplasia, epithelial dysplasia of the cervix, fibrous dysplasia of bone, and mammary dysplasia. Hyperplasias, for example, endometrial, adrenal, breast, prostate, or thyroid hyperplasias or pseudoepitheliomatous hyperplasia

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of the skin, are treated with antisense therapeutic compositions. Even in disorders in which mutations in the corresponding gene are not implicated, downregulation or inhibition of gene expression can have therapeutic application. For example, decreasing gene expression can help to suppress tumors in which enhanced expression of the gene is implicated.

Both the dose of the antisense composition and the means of administration are determined based on the specific qualities of the therapeutic composition, the condition, age, and weight of the patient, the progression of the disease, and other relevant factors. Administration of the therapeutic antisense agents of the invention includes local or systemic administration, including injection, oral administration, particle gun or catheterized administration, and topical administration. Preferably, the therapeutic antisense composition contains an expression construct comprising a promoter and a polynucleotide segment of at least 12, 22, 25, 30, or 35 contiguous nucleotides of the antisense strand. Within the expression construct, the polynucleotide segment is located downstream from the promoter, and transcription of the polynucleotide segment initiates at the promoter.

Various methods are used to administer the therapeutic composition directly to a specific site in the body. For example, a small metastatic lesion is located and the therapeutic composition injected several times in several different locations within the body of tumor. Alternatively, arteries which serve a tumor are identified, and the therapeutic composition injected into such an artery, in order to deliver the composition directly into the tumor. A tumor that has a necrotic center is aspirated and the composition injected directly into the now empty center of the tumor. The antisense composition is directly administered to the surface of the tumor, for example, by topical application of the composition. X-ray imaging is used to assist in certain of the above delivery methods.

Receptor-mediated targeted delivery of therapeutic compositions containing an antisense polynucleotide, subgenomic polynucleotides, or antibodies to specific tissues is also used. Receptor-mediated DNA delivery techniques are described in, for example, Findeis *et al.*, *Trends in Biotechnol.* (1993) 11:202-205; Chiou *et al.*, (1994) Gene Therapeutics: Methods And Applications Of Direct Gene Transfer (J.A.

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Wolff, ed.); Wu & Wu, J. Biol. Chem. (1988) 263:621-24; Wu et al., J. Biol. Chem. (1994) 269:542-46; Zenke et al., Proc. Natl. Acad. Sci. (USA) (1990) 87:3655-59; Wu et al., J. Biol. Chem. (1991) 266:339-42. Preferably, receptor-mediated targeted delivery of therapeutic compositions containing antibodies of the invention is used to deliver the antibodies to specific tissue.

Therapeutic compositions containing antisense subgenomic polynucleotides are administered in a range of about 100 ng to about 200 mg of polynucleotides for local administration in a gene therapy protocol. Concentration ranges of about 500 ng to about 50 mg, about 1 µg to about 2 mg, about 5 µg to about 500 μg, and about 20 μg to about 100 μg of polynucleotides can also be used during a gene therapy protocol. Factors such as method of action and efficacy of transformation and expression are considerations which will affect the dosage required for ultimate efficacy of the antisense subgenomic polynucleotides. Where greater expression is desired over a larger area of tissue, larger amounts of EST antisense subgenomic polynucleotides or the same amounts readministered in a successive protocol of administrations, or several administrations to different adjacent or close tissue portions of, for example, a tumor site, may be required to effect a positive therapeutic outcome. In all cases, routine experimentation in clinical trials will determine specific ranges for optimal therapeutic effect. A more complete description of gene therapy vectors, especially retroviral vectors, is contained in U.S. Serial No. 08/869,309, which is expressly incorporated herein, and in section G below.

For genes encoding polypeptides or proteins with anti-inflammatory activity, suitable use, doses, and administration are described in U.S. Patent No. 5,654,173, incorporated herein by reference. Therapeutic agents also include antibodies to proteins and polypeptides, as described in U.S. Patent No. 5,654,173.

Gene Therapy

The therapeutic polynucleotides and polypeptides of the present invention may be utilized in gene delivery vehicles. The gene delivery vehicle may be of viral or non-viral origin (see generally, Jolly, Cancer Gene Therapy (1994) 1:51-64; Kimura, Human Gene Therapy (1994) 5:845-852; Connelly, Human Gene Therapy

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(1995) 1:185-193; and Kaplitt, Nature Genetics (1994) 6:148-153). Gene therapy vehicles for delivery of constructs including a coding sequence of a therapeutic of the invention can be administered either locally or systemically. These constructs can utilize viral or non-viral vector approaches. Expression of such coding sequences can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence can be either constitutive or regulated.

The present invention can employ recombinant retroviruses which are constructed to carry or express a selected nucleic acid molecule of interest. Retrovirus vectors that can be employed include those described in EP 0 415 731; WO 90/07936; WO 94/03622; WO 93/25698; WO 93/25234; U.S. Patent No. 5, 219,740; WO 93/11230; WO 93/10218; Vile and Hart, Cancer Res. (1993) 53:3860-3864; Vile and Hart, Cancer Res. (1993) 53:962-967; Ram et al., Cancer Res. (1993) 53:83-88; Takamiya et al., J. Neurosci. Res. (1992) 33:493-503; Baba et al., J. Neurosurg. (1993) 79:729-735; U.S. Patent no. 4,777,127; GB Patent No. 2,200,651; and EP 0 345 242. Preferred recombinant retroviruses include those described in WO 91/02805.

Packaging cell lines suitable for use with the above-described retroviral vector constructs may be readily prepared (see PCT publications WO 95/30763 and WO 92/05266), and used to create producer cell lines (also termed vector cell lines) for the production of recombinant vector particles. Within particularly preferred embodiments of the invention, packaging cell lines are made from human (such as HT1080 cells) or mink parent cell lines, thereby allowing production of recombinant retroviruses that can survive inactivation in human serum.

The present invention also employs alphavirus-based vectors that can function as gene delivery vehicles. Such vectors can be constructed from a wide variety of alphaviruses, including, for example, Sindbis virus vectors, Semliki forest virus (ATCC VR-67; ATCC VR-1247), Ross River virus (ATCC VR-373; ATCC VR-1246) and Venezuelan equine encephalitis virus (ATCC VR-923; ATCC VR-1250; ATCC VR 1249; ATCC VR-532). Representative examples of such vector systems include those described in U.S. Patent Nos. 5,091,309; 5,217,879; and 5,185,440; and PCT Publication Nos. WO 92/10578; WO 94/21792; WO 95/27069; WO 95/27044; and WO 95/07994.

Gene delivery vehicles of the present invention can also employ parvovirus such as adeno-associated virus (AAV) vectors. Representative examples include the AAV vectors disclosed by Srivastava in WO 93/09239, Samulski et al., *J. Vir.* (1989) 63:3822-3828; Mendelson et al., *Virol.* (1988) 166:154-165; and Flotte et al., *PNAS* (1993) 90:10613-10617.

Representative examples of adenoviral vectors include those described by Berkner, Biotechniques (1988) 6:616-627; Rosenfeld et al., Science (1991) 252:431-434; WO 93/19191; Kolls et al., PNAS (1994) 91:215-219; Kass-Eisler et al., PNAS (1993) 90:11498-11502; Guzman et al., Circulation (1993) 88:2838-2848; Guzman et al., Cir. Res. (1993) 73:1202-1207; Zabner et al., Cell (1993) 75:207-216; Li et al., Hum. Gene Ther. (1993) 4:403-409; Cailaud et al., Eur. J. Neurosci. (1993) 5:1287-1291; Vincent et al., Nat. Genet. (1993) 5:130-134; Jaffe et al., Nat. Genet. (1992) 1:372-378; and Levrero et al., Gene (1991) 101:195-202. Exemplary adenoviral gene therapy vectors employable in this invention also include those described in WO 94/12649, WO 93/03769; WO 93/19191; WO 94/28938; WO 95/11984 and WO 95/00655. Administration of DNA linked to killed adenovirus as described in Curiel, Hum. Gene Ther. (1992) 3:147-154 may be employed.

Other gene delivery vehicles and methods may be employed, including polycationic condensed DNA linked or unlinked to killed adenovirus alone, for example Curiel, *Hum. Gene Ther.* (1992) 3:147-154; ligand linked DNA, for example see Wu, *J. Biol. Chem.* (1989) 264:16985-16987; eukaryotic cell delivery vehicles cells, for example see U.S. Serial No. 08/240,030, filed May 9, 1994, and U.S. Serial No. 08/404,796; deposition of photopolymerized hydrogel materials; hand-held gene transfer particle gun, as described in U.S. Patent No. 5,149,655; ionizing radiation as described in U.S. Patent No. 5,206,152 and in WO92/11033; nucleic charge neutralization or fusion with cell membranes. Additional approaches are described in Philip, *Mol. Cell Biol.* (1994) 14:2411-2418, and in Woffendin, *Proc. Natl. Acad. Sci.* (1994) 91:1581-1585.

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Naked DNA may also be employed. Exemplary naked DNA introduction methods are described in WO 90/11092 and U.S. Patent No. 5,580,859.

Further non-viral delivery suitable for use includes mechanical delivery systems such as the approach described in Woffendin *et al.*, *Proc. Natl. Acad. Sci. USA* (1994) 91(24):11581-11585.

Computer-Related Embodiments

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In general, a library of polynucleotides is a collection of sequence information, which information is provided in either biochemical form (e.g., as a collection of polynucleotide molecules), or in electronic form (e.g., as a collection of polynucleotide sequences stored in a computer-readable form, as in a computer system and/or as part of a computer program). The sequence information of the polynucleotides can be used in a variety of ways, e.g., as a resource for gene discovery, as a representation of sequences expressed in a selected cell type (e.g., cell type markers), and/or as markers of a given disease or disease state. In general, a disease marker is a representation of a gene product that is present in all cells affected by disease either at an increased or decreased level relative to a normal cell (e.g., a cell of the same or similar type that is not substantially affected by disease).

The nucleotide sequence information of the library can be embodied in any suitable form, e.g., electronic or biochemical forms. For example, a library of sequence information embodied in electronic form comprises an accessible computer data file (or, in biochemical form, a collection of nucleic acid molecules) that contains the representative nucleotide sequences of genes that are differentially expressed (e.g., overexpressed or underexpressed) as between, for example, a cancerous cell and a normal cell. Biochemical embodiments of the library include a collection of nucleic acids that have the sequences of the genes in the library, where the nucleic acids can correspond to the entire gene in the library or to a fragment thereof, as described in greater detail below.

The polynucleotide libraries of the subject invention generally comprise sequence information of a plurality of polynucleotide sequences, where at least one of the polynucleotides has a sequence of any of SEQ ID NOs:1-339. By plurality is meant at least 2, usually at least 3 and can include up to all of SEQ ID NOs:1-339. The length and number of polynucleotides in the library will vary with the nature of the library,

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e.g., if the library is an oligonucleotide array, a cDNA array, a computer database of the sequence information, etc.

Where the library is an electronic library, the nucleic acid sequence information can be present in a variety of media. "Media" refers to a manufacture, other than an isolated nucleic acid molecule, that contains the sequence information of the present invention. Such a manufacture provides the genome sequence or a subset thereof in a form that can be examined by means not directly applicable to the sequence as it exists in a nucleic acid. For example, the nucleotide sequence of the present invention, e.g., the nucleic acid sequences of any of the polynucleotides of SEQ ID NOs:1-339, can be recorded on computer readable media, e.g., any medium that can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as a floppy disc, a hard disc storage medium, and a magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. One of skill in the art can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising a recording of the present sequence information. "Recorded" refers to a process for storing information on computer readable medium, using any such methods as known in the art. Any convenient data storage structure can be chosen, based on the means used to access the stored information. A variety of data processor programs and formats can be used for storage, e.g., word processing text file, database format, etc. In addition to the sequence information, electronic versions of the libraries of the invention can be provided in conjunction or connection with other computer-readable information and/or other types of computer-readable files (e.g., searchable files, executable files, etc, including, but not limited to, for example, search program software, etc.).

By providing the nucleotide sequence in computer readable form, the information can be accessed for a variety of purposes. Computer software to access sequence information is publicly available. For example, the BLAST (Altschul et al., supra.) and BLAZE (Brutlag et al. Comp. Chem. (1993) 17:203) search algorithms on a Sybase system can be used to identify open reading frames (ORFs) within the genome that contain homology to ORFs from other organisms.

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As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based system are suitable for use in the present invention. The data storage means can comprise any manufacture comprising a recording of the present sequence information as described above, or a memory access means that can access such a manufacture.

"Search means" refers to one or more programs implemented on the computer-based system, to compare a target sequence or target structural motif, or expression levels of a polynucleotide in a sample, with the stored sequence information. Search means can be used to identify fragments or regions of the genome that match a particular target sequence or target motif. A variety of known algorithms are publicly known and commercially available, e.g., MacPattern (EMBL), BLASTN and BLASTX (NCBI). A "target sequence" can be any polynucleotide or amino acid sequence of six or more contiguous nucleotides or two or more amino acids, preferably from about 10 to 100 amino acids or from about 30 to 300 nt. A variety of comparing means can be used to accomplish comparison of sequence information from a sample (e.g., to analyze target sequences, target motifs, or relative expression levels) with the data storage means. A skilled artisan can readily recognize that any one of the publicly available homology search programs can be used as the search means for the computer based systems of the present invention to accomplish comparison of target sequences and motifs. Computer programs to analyze expression levels in a sample and in controls are also known in the art.

A "target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration that is formed upon the folding of the target motif, or on consensus sequences of regulatory or active sites. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are

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not limited to, hairpin structures, promoter sequences and other expression elements such as binding sites for transcription factors.

A variety of structural formats for the input and output means can be used to input and output the information in the computer-based systems of the present invention. One format for an output means ranks the relative expression levels of different polynucleotides. Such presentation provides a skilled artisan with a ranking of relative expression levels to determine a gene expression profile..

As discussed above, the "library" of the invention also encompasses biochemical libraries of the polynucleotides of SEQ ID NOs:1-339, e.g., collections of nucleic acids representing the provided polynucleotides. The biochemical libraries can take a variety of forms, e.g., a solution of cDNAs, a pattern of probe nucleic acids stably associated with a surface of a solid support (i.e., an array) and the like. Of particular interest are nucleic acid arrays in which one or more of SEQ ID NOs:1-339 is represented on the array. By array is meant a an article of manufacture that has at least a substrate with at least two distinct nucleic acid targets on one of its surfaces, where the number of distinct nucleic acids can be considerably higher, typically being at least 10 nt, usually at least 20 nt and often at least 25 nt. A variety of different array formats have been developed and are known to those of skill in the art. The arrays of the subject invention find use in a variety of applications, including gene expression analysis, drug screening, mutation analysis and the like, as disclosed in the above-listed exemplary patent documents.

In addition to the above nucleic acid libraries, analogous libraries of polypeptides are also provided, where the where the polypeptides of the library will represent at least a portion of the polypeptides encoded by SEQ ID NOs:1-339.

The present invention will now be illustrated by reference to the following examples which set forth particularly advantageous embodiments. However, it should be noted that these embodiments are illustrative and are not to be construed as restricting the invention in any way.

EXAMPLES

EXAMPLE 1

ISOLATION OF THE POLYNUCLEOTIDES

cDNA libraries were prepared from PrEC, normal human prostate epithelial cells, and LNCaP, a cell line derived from human lymph node metastasized prostate cancer. PrEC cells are available from Clonetics, San Diego, California, U.S.A. LNCaP cells are available from the ATCC, Manassas, Virginia, U.S.A.

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Using a PCR technique and reagents available from Clontech, Palo Alto, California, USA (CLONTECH PCR-SelectTM), mRNA up-regulated in LNCaP was captured and amplified. The captured polynucleotide inserts were inserted in the pCR2.1 vector, available from Invitrogen, Carlsbad, California, U.S.A. The vectors with the inserts were transformed into *E. coli* cells.

EXAMPLE 2

CONFIRMATION OF DIFFERENTIAL DISPLAY

Ten clones were chosen at random, and up-regulation of the sequences of these clone inserts in LNCaP versus PrEC cells was confirmed by Northern blot. Dot blots were performed on 168 clones and up-regulation was confirmed.

Further, sequencing of the clones showed that prostate specific antigen (PSA) and prostate specific membrane antigen (PSMA) sequences were isolated by the process described in Example 1. A good correlation between increased serum PSA levels and prostate tumors has been observed. PSMA, a cell surface antigen, is another observed marker for prostate cancer. See Bosland, Encyclopedia of Cancer, Volume II, pages 1283-1296 (1997), Academic Press. Thus, the data confirm that up-regulated mRNA characteristic of gene expression in prostate cancer was cloned by the method of Example 1.

EXAMPLE 3

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POLYNUCLEOTIDE SEQUENCES

The sequence results are shown in SEQ ID NO:1-339. For the sequencing experiments, each clone was named SL-1 to SL-209. Inserts from some of the clones were sequenced more than once. Each sequence was designated a unique combination of two names. This unique combination is shown in Table 1 in columns 2 and 3, denoted as "Sequence Name" and "Other Seq Name."

Table 1 indicates all the sequences that correspond to each clone. Thus, all the sequences corresponding to clone SL-3, for example, are grouped together in Table 1.

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Clones also were assigned cluster numbers. See column 4 of Table 1. Clones with the same cluster number generally comprise sequence derived from the same mRNA transcripts.

The last column of Table 1 indicates the nearest neighbor as determined by an alignment to sequences in a publicly available database.

A consensus for the sequence of each clone can be constructed by aligning the corresponding sequences or reverse complements thereof. Table 1 lists the names of all the sequences that correspond to each clone, and Table 2 shows the specific sequence that corresponds to each unique combination of Sequence Name and/or "Other Seq. Name."

The entire insert of some clones may not be represented by the sequences presented in Table 2. For example, the 5' and 3' ends of a clone insert may have been sequenced, but the sequences do not overlap. Additional sequence corresponding to the clone insert can be isolated and determined by constructing probes or primers from the sequences presented in Table 2 and a library of mRNA or cDNA from a prostate cell or prostate cancer cell line using the methods described above.

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EXAMPLE 4

RESULTS OF PUBLIC DATABASE SEARCH

Both the nucleotide sequence and translations of masked sequences shown in the Sequence Listing were aligned with individual sequences that were publicly available. Similarity with individual sequences is used to determine the activity of the polypeptides encoded by genes corresponding to the sequences referred to in Table 2.

The sequences in SEQ ID NO:1-333 first were masked to remove the pCR2.1 vector sequences. Masking was performed by aligning the pCR2.1 sequences with each of SEQ ID NO:1-333 using the BLASTN program. Any sequence that produced an alignment with a score of less that 0.1 was masked.

A BLASTN vs. Genbank search was performed using the masked sequences with search parameters of greater than 99% overlap, 99% identity, and a p value of less than 1 x 10⁻⁴⁰ and this resulted in discard of sequences. Sequences from this search also were discarded if the inclusive parameters were met, but the sequence was ribosomal or vector-derived.

The resulting sequences from the previous search were classified into three groups (1, 2 and 3 below) and searched in a BLASTX vs. NRP (non-redundant proteins) database search: (1) unknown (no hits in the Genbank search), (2) weak similarity (greater than 45% identity and p value of less than 1 x 10^{-5}), and (3) high similarity (greater than 60% overlap, greater than 80% identity, and p value less than 1 x 10^{-5}). This search resulted in discard of sequences as having greater than 99% overlap, greater than 99% identity, and p value of less than 1 x 10^{-40} .

The remaining sequences were classified as unknown (no hits), weak similarity, and high similarity (parameters as above). Two searches were performed on this set of sequences. First, a BLAST vs. EST database search resulted in discard of sequences with greater than 99% overlap, greater than 99% similarity and a p value of less than 1 x 10⁻⁴⁰; sequences with a p value of less than 1 x 10⁻⁴⁵ when compared to a database sequence of human origin were also excluded. Second, a BLASTN vs. Patent

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GeneSeq database resulted in discard of sequences with greater than 99% identity; p value less than 1×10^{-40} ; greater than 99% overlap.

The masked sequences were translated in all six reading frames to determine the best alignment with the individual sequences. These amino acid sequences and nucleotide sequences are referred, generally, as query sequences, which are aligned with the individual sequences.

Query and individual sequences were aligned using the BLAST programs, available over the world wide web.

Table 2 shows the results of the alignments. Table 2 refers to each sequence by its Sequence Name and/or "Other Seq. Name" and includes the accession numbers and descriptions of nearest neighbors from the Genbank and Non-Redundant Protein searches.

The activity of the polypeptide encoded by the sequences referred to in Table 2 is expected to be the same or similar to the nearest neighbor reported in Table 2. The accession number of the nearest neighbor is reported, providing a reference to the activities exhibited by the nearest neighbor. The search program and database used for the alignment also are indicated as well as a calculation of the p value.

Full length sequences or fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence corresponding to sequence referred to in Table 2. Although full length sequences can be obtained from the cell lines described above, the nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences of those referred to in Table 2.

The sequences referred to in Table 2 and the translations thereof may be human homologs of known genes of other species or novel allelic variants of known human genes. In such cases, these new human sequences may be suitable as diagnostics, prognostics, or therapeutics. As diagnostics, the human sequences exhibit greater specificity in detecting and differentiating human cell lines and types than homologs of other species. The human polypeptides are less likely to be immunogenic when administered to humans than homologs from other species. Further, on

administration to humans, the encoded polypeptides can show greater specificity or can be better regulated by other human proteins than are homologs from other species.

In the preferred embodiments of the invention, the sequences shown in SEQ ID NO:1-339 consisting of the unmasked regions should be considered as the source of probes and primers, as these sequences are most representative of the distinguishing portions of these polynucleotides.

Generally, the masking itself does not influence the search results as shown in Table 2, except to eliminate multiple "hits" based on similarity to repetitive regions common to more than one polypeptide.

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EXAMPLE 5

ANALYSIS OF CLONES SL-5, SL-9, SL-68, AND SL-173

Clone SL-5 (SEQ ID NO:14 and 334)

By Northern Blot, a 4.1 kb band was observed in expressed in normal prostate, testis, and lymphoblasic leukemia. It was also expressed in the cell lines LNCaP, and MDA PCa 2A and 2B (metastatic prostate cells into bone, androgen sensitive). Additional sequence corresponding to SEQ ID NO:14 is disclosed in SEQ ID NO:334.

Expression of SL-5 was investigated in normal and tumor tissues using immunohistochemistry. Antibody was prepared using two sequences from clone SL-5: H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKRNSRTTR-RSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry (IHC) was performed on a variety of tumor tissues and corresponding normal tissue. The methods used were those described for the Manual IHC Protocol using BioGenex Reagents and Zymed AEC Solution, as known in the art. As shown in Figure 3, SL-5 was detected in the following tumor tissue: adrenal, ovary, breast, colon, prostate, uterus, cervix, kidney, pancreas, liver, stomach, lymphoma, seminoma, thyroid, melanoma, basal cell carcinoma, and other tumor tissues. Where comparative normal tissue was available, expression in the

corresponding normal tissue was lower than in the tumor tissue. Thus, SL-5 is a useful marker for cancer tissue including prostate.

Clone SL-9 (SEQ ID NO:18)

By Northern Blot, sequences from SL-9 were specifically expressed in normal spleen and normal peripheral blood leukocyte. Expression of the SL-9 sequences was observed also in promyelocytic leukemia HL-60, chronic mylogenous leukemia K-562, lymphoblastic leukemia MOLT-4, Burkitt's lymphoma, and Raji cancer cell lines by Northern Blot.

Clone SL-173 (SEQ ID NO:153 and 154)

By Northern Blot, SL173 was found in every cancer cell line tested. Sequence from SL-173 has similarity to and may be a human homologue of the rat tumor transforming gene, which was found in the pituitary and described in Pei et al., Mol. Endo. 11: 433-441 (1997) and Pei, J. Biol. Chem. 273(9): 5219-5225 (1998). When the rat tumor transforming gene was injected in NIH3T3cells, the cells became transformed and were able to form a tumor when injected into mice. (Pei et al., Mol. Endo. supra).

Clone SL-68 (SEQ ID NO:218 and 219)

Two transcripts, 2.6kb and 4.3kb, were observed in normal spleen, thymus and peripheral blood leukocytes, as well as in promyelocytic leukemia, chronic myelogenous leukemia and lymphoblastic leukemia. The 4.3kb transcript was seen in normal testis, colon, Hela cell S3, colorectal adenocarcinoma and melanoma. The 2.6kb band was found in the following prostate cell lines: PC-3 (metastatic to bone, androgen insensitive); DU-145 (metastatic to brain, androgen insensitive); FFpz (primary cells derived from normal prostate epithelium); Ffca (primary cells derived from Gleason Grade 3 prostate cancer epithelium); and WO-CA (primary cells derived from Gleason Grade 4 prostate cancer epithelium). However, higher expression was observed in LNCaP, MDA PCa 2A, HPV-7 and HPV-10. A 9.5kb transcript was also observed in MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:335.

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Clone SL69 (SEQ ID NO:220 and 221)

A weak 2.6kb band was observed in normal testis as well as in chronic myelogenous leukemia and lymphoblastic leukemia. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:336.

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Clone SL86 (SEQ ID NO:242 and 243)

The sequence was expressed in normal prostate (2.7kb and 1.1kb) and testis (1.1kb). Low expression was observed in a cancer cell line blot using the cell lines described above. 1.1kb and 2.7kb transcripts were observed in the cell lines LNCaP, and MDA PCa 2a and 2b (metastatic prostate cells into bone, androgen sensitive), and weak 1.1kb transcript was seen in HPV-7 (immortalized normal prostate cells) and HPV-10 (immortalized prostate cancer cells). Additional sequence corresponding to this clone is disclosed in SEQ ID NO:337.

15 Clone SL195 (SEQ ID NO:288 and 289)

The sequence was expressed in normal prostate as a 1.9kb transcript, and the same transcript also observed in all cell lines in the cancer cell line blot described above. It was more heavily expressed in HeLa cell S3 and chronic myelogenous leukemia, and was expressed in all prostate cell lines. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:338.

Clone SL197 (SEQ ID NO:292 and 293)

Two transcripts, 2.4kb and 4kb, were observed in normal prostate and testis. Two very weak 2.4kb signals were observed in Hela cell S3 and chronic myelogenous leukemia. The 2.4kb transcript was expressed in all prostate cell lines. A 4kb transcript was found in LNCaP, MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:339.

Those skilled in the art will recognize, or be able to ascertain, using not more than routine experimentation, many equivalents to the specific embodiments of

the invention described herein. Such specific embodiments and equivalents are intended to be encompassed by the following claims.

All patents, published patent applications and publications cited herein are incorporated by reference as if set forth fully herein.



Clone #	Sequence Name	e Other Seq Name	Clone #	Nearest Neighbor If Available
SL-001	SL001	19si1	SL-001	S60754 (VNTR locus DXZ4)
	SL001M1			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
SL-002	SL002	20sl2	SL-002	L07935 HUMVNTRA
SL-003	SL003	21si3	SL-003	AB006625 - KIAA0287 gene
	SL003	35-sl3-1m13	İ	
	SL003	35-sl3-1t7	j	
	SL003	37-sl3-1m13		
	SL003	39-sl3-1m13		
SL-004	SL004	22si4	SL-004	
	SL004M13	3		
SL-005	SL005	23sl5	SL-005	
	SL005	30s111b		
SL-006	SL006	24sl6	SL-006	
	SL006M13			cosmid genomic clone
SL-007	SL007	25si7	SL-003	AB006625- KIAA0287
	SL007	28-si7-1m13		
	SL007	28-sl7-1t7		
	SL007	30-s17-1m13		
	SL007	30-s17-1t7		
	SL607	32-s17-1m13		
	SL007	32-sl7-1t?		
SL-008	SL008	26sl8	1	HUMP65 E=9e-62 L-plastin. Phosphoprotein (p65)
SL-009	SL009	27sl9		·
	SL009M13			
SL-010	SL010	28s110	SL-005	
SL-011	SL011	29sl11a		HSU10685 - MAGE-10 Gene
SL-012	SL012	31sl12	SL-011	HSU10685 - MAGE-10 Gene
SL-013	SL013	32s113		
SL-015	SL015	34sl15	SL-015	HSU90336 - PEG3 mRNA
	SL015	46-sl15-2m13		
	SL015	47-sl15-2m13	1	HSMRNAEN - Enkephalinase
	SL015	47-sl15-2t7	1	
SL-016	SL016	10-s116-1m13	SL-016	
	SL016	10-si16-1t7		
	SL016	11-s116-1m13		
	SL016	18-si16-2m13	ĺ	
	SL016	18-s116-2t7	-	
	SL016	19-si16-2m13		



				. TABLE I
	SL016	19-s116-2t7		
	SL016	20-sl16-2m13		
	SL016	20-s116-2t7		
	SL016	35sl16		
	SL016	9-s116-1t7		<u>'</u>
SL-017	SL017	36s117	SL-017	HUMORF01 - KIAA0101 gene
SL-028	SL028m13	B1	SL-028	
	SL028t7	Bl		
SL-029	SL029m13	WE97.C1.M13	SL-029	
	SL029t7	WE97.C1.T7		
SL-032	SL032m13	WE97.D1.M13	SL-032	HSTPIIG TPII gene
	SL032t7	WE97.D1.T7		for triosephosphate isomerase.
SL-036	SL036m13	WE97.E1.M13	SL-036	HSU81599 homeodomain protein
	SL036t7	WE97.E1.T7	·	HOXB13
SL-037	SL037m13	C1	SL-005	
	SL037m13	WE97.F1.M13		
	SL037t7	Cl		
SL-040	SL040m13	D1	SL-040	
	SL040t7	DI		
SL-041	SL041m13	El	SL-016	
	SL041m13	WE97.H1.M13		_
	SL041t7	E1		·
	SL041t7	WE97.H1.T7		
SL-042	SL042m13	WE97.A2.M13	SL-008	HUMP65 phosphoprotein (p65)
	SL042t7	WE97.A2.T7		HUMPLASTA L-plastin gene
SL-044	SL044m13	WE97.B2.M13	SL-016	
	SL044t7	WE97.B2.T7		
SL-04 5	SL045m13	WE97.C2.M13	SL-045	
	SL045t7	WE97.C2.T7		genomic DNA
SL-046	SL046m13	WE97.D2.M13	SL-046	
	SL046t7	WE97.D2.T7	<u>.</u>	
SL-047	SL047m13	WE97.E2.M13	SL-047	
	SL047t7	WE97.E2.T7		
SL-050	SL050m13	WE97.F2.M13	SL-050	
	SL050t7	WE97.F2.T7		
SL-051	SL051m13	WE97.G2.M13	SL-051	
	SL051t7	WE97.G2.T7		
SL-054	SL054m13	WE97.H2.M13	SL-054	
	SL054t7	WE97.H2.T7		
SL-055	SL055m13	FI	SL-050	
	SL055t7	FI		
	SL055t7	WE97.A3.T7		



	lar ora		CT 057	1
SL- 057	1	WE97.C3.M13	SL-057	
	SL057t7	WE97.C3.T7	OT 050	TYCE DDD I CAL louging sigh primary
SL-058	t .	WE97.D3.M13	SL-058	HSLRPRIGN leucine-rich primary
	SL058t7	WE97.D3.T7		response protein 1.
SL-061	SL061m13	WE97.E3.M13	SL-028	•
	SL061t7	WE97.E3.T7		
SL-062	SL062m13	WE97.F3.M13	SL-028	
	SL062t7	WE97.F3.T7		
SL-064	SL064m13	WE97.G3.M13	SL-064	
	SL064t7	WE97.G3.T7		
SL-066	SL066m13	WE97.H3.M13	SL-016	
	SL066t7	WE97.H3.T7		
SL-067	SL067m13	HI	SL-067	HUMKIAAP - KIAA0095 gene
	SL067t7	HI	,	
	SL067t7	WE97.A4.T7		
SL-068	SL068m13	WE97.B4.M13	SL-068	
	SL068t7	WE97.B4.T7		
SL-069	SL069m13	WE97.C4.M13	SL-069	
	SL069t7	WE97.C4.T7		
SL-071	SL071m13	WE97.D4.M13	SL-071	
	SL071t7	WE97.D4.T7		
SL-072	SL072m13	WE97.E4.M13	SL-015	HSU90336 Human PEG3 mRNA
	SL072t7	WE97.E4.T7		AB006625 KIAA0287
SL-074	SL074m13	WE97.F4.M13	SL-074	
	SL074t7	WE97.F4.T7		
SL-075	SL075m13	WE97.G4.M13	SL-075	
	SL075t7	WE97.G4.T7		
SL-076	SL076m13	WE97.H4.M13	SL-076	
	SL076t7	WE97.H4.T7		
SL-077	SL077m13	WE97.A5.M13	SL-077	
	SL077t7	WE97.A5.T7		
SL-078	SL078m13	A2	SL-016	
	SL078m13	WE97.B5.M13		
	SL078t7	A2		BAC clone (with Alu)
SL-081	1	WE97.E5.M13	SL-003	AB006625 - KIAA0287 gene
	SL081t7	WE97.E5.T7		
SL-083		WE97.G5.M13	SL-083	
2 4 000	SL083t7	WE97.G5.T7		
SL-084		WE97.H5.M13	SL-084	
J2 00 F	SL08417	WE97.H5.T7		(HS295C6 Human DNA sequence)
	100040	** *** * * * * * * *	1	

TABLE 1

				_
SL-085	SL085m13	WE97.A6.M13	SL-085	
SL-086	SL086m13	WE97.B6.M13	SL-086	
	SL086t7	WE97.B6.T7		
نL-087	SL087m13	WE97.C6.M13	SL-087	EST and Mus musculus
	SL087t7	WE97.C6.T7		ras-GTPase-activating protein
SL-088	SL088m13	WE97.D6.M13	SL-015	HSU90336 Human PEG3
	SL088t7	WE97.D6.T7		& AB006625 - KIAA0287 gene
SL-089	SL089m13	WE97.E6.M13	SL-089	
	SL089t7	WE97.E6.T7		
SL-090	SL090m13	D2	SL-090	
	SL090t7	D2		
SL-091	SL091m13	WE97.G6.M13	SL-091	
	SL091t7	WE97.G6.T7		
SL-092	SI 002-13	WE97.H6.M13	SL-092	HUMPRKACB testis-specific
3L-092	SL092m13	WE97.DU.M13		cAMP-dependent protein kinase
	SL092t7	WE97.H6.T7		catalytic subunit (C-beta isoform)
SL-093	SL093m13	E2	SL-008	HUMLPLSTN2 L-plastin gene
	SL093t7	E2		
SL-094	SL094m13	WE97.B7.M13	SL-094	
	SL094t7	WE97.B7.T7		
SL-095	SL095m13	WE97.C7.M13	SL-003	AB006625 - KIAA0287
	SL095t7	WE97.C7.T7		
SL-096	SL096m13	WE97.D7.M13	SL-096	
	SL096t7	WE97.D7.T7		
SL-097	SL097m13		SL-071	
	SL097t7			
SL-098	SL098m13		SL-098	
	SL098t7			
SL-099	SL099m13		SL-016	
	SL099t7			
SL-100	SL100m13	F2	SL-085	
	SL100m13			SL100m13 Alu - 2e-71
	SL100t7	F2		
	SL100t7			120
SL-102	SL102m13		SL-102	HSRPL32 ribosomal protein L32
	SL102t7			
SL-103	SL103m13		SL-103	·
	SL103t7			
SL-105	SL105m13		SL-105	
	SL105t7			
SL-106	SL106m13		SL-106	
	SL106t7			
SL-107	SL107m13		SL-016?	
	SL107t7			SL107m13 -Alu - 2e-78
SL-110	SL110m13		SL-003	AB006625- KIAA0287 gene

TABLE 1

			IADLE I
	SL110t7		
SL-111	SL111m13	SL-111	
	SL111t7		
3L-112	SL112m13	SL-112	
	SL112t7		
SL-115	SL115m13	SL-115	D86322 - calmegin
	SL115t7		
SL-116	SL116m13	SL-116	
	SL116t7		
SL-117	SL117m13	SL-117	HUMNUMB23 = HUMNPM
3L-11/	SLI1/m15		Human nucleolar protein (B23)
	SL117t7		or Human nucleophosmin
SL-118	SL118m13	SL-118	
	SL118t7		
SL-119	SL119m13	SL-119	[
	SL119t7		
SL-120	SL120m13	SL-046	
	SL120t7		
SL-121	SL121m13	SL-016	
	SL121t7 ·		
SL-122	SL122m13	SL-122	HUMPRKACB testis-specific
02 132			cAMP-dependent protein kinase
	SL122t7		catalytic subunit (C-beta isoform)
3L-124	SL124m13	SL-016	
	SL124t7	107 107	7707110115 01051
SL-125	SL125m13	SL-125	HSU19145 GAGE-4
GT 100	SL125t7	GY 105	(US 5,648,226)
SL-127	SL127m13	SL-127	
GT 100	SL127t7	GT OOF	
SL-128	SL128m13	SL-005	
GT 100	SL128t7	CT 120	
SL-130	SL130m13	SL-130	
OT 120	SL130t7	CT 011	USU10695 MACE 10 acre
SL-132	SL132m13	SL-011	HSU10685 MAGE-10 gene
CI 124	SL132t7	CT 124	(US 5.612,201)
SL-134	SL134m13 SL134t7	SL-134	HSC70P Hsc 70 pseudogene (Heat Shock protein)
CI 126		SL-135	(Heat Shock protein)
SL-135	SL135m13	SL-133	
CI 120	SL135t7	CT OF1	
SL-138	SL138m13	SL-051	
CT 12:3	SL138t7	CT 120	
SL-139	SL139m13	SL-139	Homo senione sec-id
7T 140	SL139t7	CT 005	Homo sapiens cosmid
3L-142	SL142m13	SL-005	
	SL142t7	l	

TABLE 1

SL-143	SL143m13		SL-143	Genomic clone
	SL143t7			AC003978
SL-144	SL144m13		SL-144	
	SL144t7			E= 3-81
SL-145	SL145m13		SL-003	AB006625- KIAA0287 gene
SL-146	SL146m13	WE97.E7.M13	SL-146	
	SL146t7	WE97.E7.T7		
SL-147	SL147m13	G2	SL-147	(1) HSCDC2R Human cell cycle
	SL147m13	WE97.F7.M13		control gene CDC2
	SL147t7	G2		(2) HSU29091 selenium-binding
SL-148	SL148m13	WE97.G7.M13	SL-016	
	SL148t7	WE97.G7.T7		
SL-149	SL149m13	H2	SL-149	
•	SL149t7	H2	·	
SL-150	SL150m13	A3	SL-150	·
	SL150t7	A3		"Human DNA sequence"
SL-151	SL151m13	WE97.B8.M13	SL-151	
	SL151t7	WE97.B8.T7		Genomic frag
SL-152	SL152m13	WE97.C8.M13	SL-152	
	SL152t7	WE97.C8.T7		
SL-153	1	WE97.D8.M13	SL-153	
		WE97.D8.T7		<u> </u>
SL-154	SL154t7	WE97.E8.T7		HUMPAR5R - PAR-5 mRNA
3L-155	1	WE97.F8.M13	SL-028	
	SL155t7	WE97.F8.T7		SL155m13 - EST only in Mouse
SL-156	1	WE97.G8.M13	SL-016	
	SL156t7	WE97.G8.T7		
SL-157		WE97.H8.M13	SL-157	
	SL157t7	WE97.H8.T7	07. 014	TOTAL COST (A GET 10
SL-158	4	WE97.A9.M13	SL-011	HSU10685 MAGE-10 gene
	SL158t7	WE97.A9.T7	GT 150	(US 5,612,201)
SL-159	1	WE97.B9.M13	SL-159	
GY 160	SL159t7	WE97.B9.T7	CT OS1	Chromosome 11 pac
SL-160)	WE97.C9.M13	SL-051	
	SL160t7	WE97.C9.T7	OT 161	THE (DCS) 1 - 1 (- (5)
SL-161		WE97.D9.M13	SL-161	HUMP65 phosphoprotein (p65)
GY 160	SL161t7	WE97.D9.T7	OT 160	HUMPLASTA L-plastin gene
SL-162	SL162m13		SL-162	
QT 1.00	SL162t7	B3	CT 016	HIGHTSOO NOANO
SL -163	SL163m13		SL-016	HSU75330 -NCA M 21
OX 161	SL163t7	WE97.F9.T7	CT O16	
SL-164	I	WE97.G9.M13	SL-016	
38 115	SL164t7	WE97.G9.T7	OT 165	
3L-165		WE97.H9.M13	SL-165	
	SL165t7	WE97.H9.T7		(genomic seq)

TABLE 1

SL16617	SL-166	SL166m13 C3	SL-166	1
SL-167		SL166t7 C3		
SL 167:7 WE97.B10.T7 Coagulation inhibitor (LACI) gene		SL166t7 WE97.A10.T	, [
SL-168	3L-167	SL167m13 WE97.B10.M	13 SL-167	HUMLPACIO9 lipoprotein-associated
SL 168t7 WE97.C10.T7		SL167t7 WE97.B10.T		coagulation inhibitor (LACI) gene
SL-169	SL-168	SL168m13 WE97.C10.M	13 SL-168	
SL 169 WE97.DIO.T7 SL SL 170m SL 171m WE97.FIO.M13 SL 171m WE97.FIO.M13 SL 171m WE97.FIO.M13 SL 171m SL 172m WE97.GIO.M13 SL 172m WE97.GIO.M13 SL 173m WE97.HIO.M13 SL 173m SL 173m SL 173m SL 173m SL 173m SL 174m D3 SL 174m D3 SL 174m SL 175m WE97.BII.M13 SL 175m SL 175m WE97.BII.M13 SL 175m SL 175m WE97.CII.M13 SL 177m SL 177m SL 177m WE97.DII.M13 SL 177m SL 177m WE97.DII.M13 SL 177m SL 177m SL 179m WE97.FII.M13 SL 179m SL 179m SL 179m SL 181m WE97.FII.M13 SL 179m SL 181m S		SL168t7 WE97.C10.T		
SL-170	SL-169	SL169m13 WE97.D10.M	13 SL-169	HUMNEUROF oligodendrocyte
SL170t7 WE97.E10.T7 SL171m13 WE97.F10.M13 SL-171 SL171t7 WE97.F10.M13 SL-171 SL171t7 WE97.F10.M13 SL-172 SL172m13 WE97.G10.M13 SL-173 SL173m13 WE97.H10.M13 SL-173 SL173t7 WE97.H10.M13 SL-173 SL174m13 D3 SL174t7 D3 SL175t7 WE97.B11.T7 SL175m13 WE97.B11.M13 SL-176 SL176t7 WE97.C11.M13 SL-176 SL176t7 WE97.C11.M13 SL-176 SL176t7 WE97.D11.M13 SL-176 SL177m13 WE97.D11.M13 SL-176 SL178m13 WE97.E11.M13 SL-178 SL178t7 WE97.E11.M13 SL-178 SL178t7 WE97.F11.M13 SL-179 SL179t7 WE97.F11.M13 SL-179 SL179t7 WE97.H11.M13 SL-181 SL181m13 WE97.H11.M13 SL-181 SL182m13 WE97.H11.M13 SL-181 SL184m13 WE97.H12.M13 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) HSHAP1MR Human HAP1 mRNA SL183m13 WE97.D12.M13 SL-046 SL184m13 WE97.D12.M13 SL-046 SL184m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL187t7 WE97.E12.M13 SL-187 SL-187t7 WE97.E12.M13 SL-188 SL187t7 WE97.E12.M13 SL-188 SL187t7 WE97.E12.M13 SL-188 SL188m13 G3 SL188m13 SL-188 SL188m13 G3 SL188m13 SL-188 SL188m13 G3 SL188m13 SL-188 SL188m13 G3 SL188m13		SL169t7 WE97.D10.T	,	myelin glycoprotein (OMG)
SL-171	SL-170	SL170m13 WE97.E10.M	3 SL-170	
SL17167 WE97.F10.T7		SL170t7 WE97.E10.T7		
SL-172	SL-171	SL171m13 WE97.F10.M	3 SL-171	AB002374 - KIAA0376 gene
SL172(7 WE97.G10.T7 SL-173 SL173m13 WE97.H10.M13 SL-173 SL173m13 WE97.H10.T7 SL174m13 D3 SL-174 SL174m13 D3 SL-174 SL175m13 WE97.B11.M13 SL-016 SL175m13 WE97.B11.T7 SL-176 SL176m13 WE97.C11.M13 SL-176 SL176m13 WE97.C11.M13 SL-176 SL177m13 WE97.C11.T7 SL-177 SL177m13 WE97.D11.T7 SL-177 SL177m13 WE97.D11.T7 SL-178 SL178m13 WE97.E11.M13 SL-178 SL178m13 WE97.E11.M13 SL-178 SL178m13 WE97.E11.M13 SL-179 SL179m13 WE97.F11.M13 SL-179 SL179m13 WE97.F11.M13 SL-179 SL181m13 WE97.H11.M13 SL-181 SL181m13 WE97.H11.M13 SL-181 SL182m13 WE97.H11.M13 SL-181 SL182m13 WE97.H11.M13 SL-181 SL182m13 WE97.A12.M13 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) HSHAP1MR Human HAP1 mRNA SL-183 SL183m13 WE97.B12.M13 SL-046 SL182m13 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-046 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186m13 WE97.D12.M13 SL-187 SL187m13 WE97.E12.M13 SL-186 SL187m13 WE97.E12.M13 SL-187 SL187m13 WE97.E12.M13 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL-18		SL171t7 WE97.F10.T7		
SL-173	SL-172	SL172m13 WE97.G10.M	3 SL-016	
SL173t7 WE97:H10.T7		SL172t7 WE97.G10.T7		
SL-174	SL-173	SL173m13 WE97.H10.M	13 SL-173	
SL 17417 D3 SL 175m 13 WE97.B 11.M 13 SL 175t7 WE97.B 11.M 13 SL 176t7 WE97.B 11.M 13 SL 176t7 WE97.C 11.M 13 SL 176t7 WE97.D 11.M 13 SL 177t7 SL 177t7 WE97.D 11.M 13 SL 177t7 WE97.D 11.M 13 SL 178t8 SL 178t8 WE97.E 11.M 13 SL 178t7 WE97.B 11.M 175 SL 179t7 WE97.B 11.M 175 SL 179t7 WE97.B 11.M 175 SL 181t7 WE97.B 12.M 13 SL 181t7 WE97.C 12.M 13 SL 181t7 WE97.B 12.M 13 SL 185t7 WE97.B 12.T SL 185t7 WE97.B 12.		SL173t7 WE97:H10.T7		
SL-175	SL-174	SL174m13 D3	SL-174	
SL175t7 WE97.B11.T7 SL-176 SL176m13 WE97.C11.M13 SL-176 SL176t7 WE97.C11.T7 SL177t7 WE97.D11.T7 SL177t7 WE97.D11.T7 SL-178 SL178m13 WE97.D11.T7 SL-178 SL178t7 WE97.E11.T7 Human BAC clone SL-179 SL179t7 WE97.F11.M13 SL-179 SL18m13 WE97.F11.M13 SL-179 SL18m13 WE97.F11.T7 SL-181 SL18lm13 WE97.H11.T7 SL-181 SL18lm13 WE97.H11.T7 SL-182 SL182m13 F3 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) HSHAP1MR Human HAP1 mRNA SL-183 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.B12.T7 SL-186 SL184t7 WE97.D12.T7 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187t7 WE97.E12.T7 SL-188 SL187t7 WE97.E12.T7 SL-188 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188 SL188t7 G3		SL174t7 D3	-	
SL-176	SL-175	SL175m13 WE97.B11.M	3 SL-016	
SL176t7 WE97.C11.T7 3L-177 SL177m13 WE97.D11.M13 SL-177 SL178t7 WE97.D11.T7 SL178t13 WE97.E11.M13 SL-178 SL178t7 WE97.E11.T7 Human BAC clone SL179t7 WE97.F11.M13 SL-179 SL181t7 WE97.H11.M13 SL-181 SL181t7 WE97.H11.T7 SL-181 SL182t13 WE97.H11.T7 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) SL182t7 F3 SL182m13 SL-046 SL183t7 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-046 SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188		SL175t7 WE97.B11.T7		
SL-177	SL-176	SL176m13 WE97.C11.M	3 SL-176	
SL177t7 WE97.D11.T7 SL178m13 WE97.E11.M13 SL-178 SL178m13 WE97.E11.M13 SL-179 SL179m13 WE97.F11.M13 SL-179 SL179t7 WE97.F11.T7 SL-181 SL181m13 WE97.H11.M13 SL-181 SL182m13 F3 SL182m13 SL182m13 SL182m13 WE97.A12.M13 SL182t7 F3 SL183t7 WE97.B12.M13 SL-046 SL183t7 WE97.B12.M13 SL-046 SL184m13 WE97.B12.T7 SL-184 SL184m13 WE97.B12.M13 SL-016 SL184t7 WE97.D12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL-188 SL188m13 G3 SL-188 SL-188 SL188m13 G3 SL-188 SL-188 SL-188 SL188m13 G3 SL-188 S				
SL-178	3L-177	SL177m13 WE97.Di1.M	3 SL-177	
SL178t7 WE97.E11.T7 Human BAC clone				
SL-179	SL-178		3 SL-178	
SL179t7 WE97.F11.T7 SL-181 SL181m13 WE97.H11.M13 SL-181 SL181t7 WE97.H11.T7 SL-182 SL182m13 F3 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) SL182t7 F3 SL-183 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187t7 WE97.E12.T7 SL-188 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188 SL-188 SL188t7 G3				Human BAC clone
SL-181	SL-179	Ĭ	3 SL-179	
SL181t7 WE97.H11.T7 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) HSHAP1MR Human HAP1 mRNA SL-183 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186t7 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187t7 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL188t7 G3 SL-188 SL-188 SL188t7 G3				
SL-182 SL182m13 F3 SL-182 HUMAPEA apurinic/apyrimidinic endonuclease (HAP1h) SL182m13 WE97.A12.M13 SL182t7 F3 HSHAP1MR Human HAP1 mRNA SL-183 SL183m13 WE97.B12.M13 SL-046 SL184m13 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188	SL-181		3 SL-181	•
SL182m13 WE97.A12.M13 endonuclease (HAP1h) SL182t7 F3 HSHAP1MR Human HAP1 mRNA SL-183 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL-187 SL187m13 WE97.E12.M13 SL-187 SL-188 SL188m13 G3 SL-188 SL188t7 SL188t7 G3 SL-188 SL188t7 SL188t7 SL-188 SL188t7 SL-188 SL-188				
SL182t7 F3 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL188t7 G3 HSHAP1MR Human HAP1 mRNA SL-046 HSHAP1MR Human HAP1 mRNA SL-046 SL-	SL-182	•	1	1
SL-183 SL183m13 WE97.B12.M13 SL-046 SL183t7 WE97.B12.T7 SL-016 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186t7 WE97.D12.M13 SL-186 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL188t7 G3			3	, ,
SL183t7 WE97.B12.T7 SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188				HSHAPIMR Human HAPI mRNA
SL-184 SL184m13 WE97.C12.M13 SL-016 SL184t7 WE97.C12.T7 SL-186 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL-187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188 SL-188 SL-188	SL-183		3 SL-046	
SL184t7 WE97.C12.T7 SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188				
SL-186 SL186m13 WE97.D12.M13 SL-186 SL186t7 WE97.D12.T7 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL188m13 G3 SL-188 SL188t7 G3 SL-188	SL-184		3 SL-016	
SL186t7 WE97.D12.T7				
SL-187 SL187m13 WE97.E12.M13 SL-187 SL187t7 WE97.E12.T7 SL-188 SL-188 SL188m13 G3 SL-188 SL188t7 G3 SL-188	SL-186		3 SL-186	
SL187t7 WE97.E12.T7 SL-188 SL188m13 G3 SL-188 SL188t7 G3			<u> </u>	
SL-188 SL188m13 G3 SL-188 SL188t7 G3	SL-187	SL187m13 WE97.E12.M1	3 SL-187	
SL188t7 G3		SL187t7 WE97.E12.T7		
1	SL-188	SL188m13 G3	SL-188	
SL188t7 WE97.F12.T7		SL188t7 G3		
		SL188t7 WE97.F12.T7		

TABLE 1

SL 1917 WE97.H12.T7 SL 192 SL 192m13 H3 SL 1921 Human DNA sequence"	SL-191		WE97.H12.M13	SL-181	
SL-193 SL193m13 A4 SL-193 SL-193 SL193m13 A4 SL-194 SL194m13 B4 SL-194 SL194m13 B4 SL-195 SL194m13 B4 SL-195 SL195m13 C4 SL-195 SL195m13 C4 SL-195 SL196m13 D4 SL-196 HUMMAOAAA monoamine oxidase (MAOA) SL-196 SL197m13 E4 SL-197 SL197m13 E4 SL-197 SL198m13 F4 SL-198 SL198m13 F4 SL-198 SL198m13 G4 SL-198 SL-199m13 G4 SL-196 SL-201 SL201m13 A5 SL-201 SL201m13 A5 SL-202 SL202m13 B5 SL-202 SL202m13 B5 SL-202 SL202m13 C5 SL202m13 C5 SL202m13 C5 SL-204 SL204m13 D5 SL-205 SL-206 SL-206m13 F5 SL-205 SL-206 SL-206m13 F5 SL-206 SL-206m13 F5 SL-205 SL-207 HUMFOLMES - DHFR Glipydrofolate reductase gene SL-208 SL-208 SL-208m13 H5 SL-208 AB011165 - KIAA0593 SL-209 SL-209 SL-209m13 A6		SL191t7	WE97.H12.T7		
SL-193	SL -192	SL192m13	H3	SL-192	
SL19317		SL192t7	H3		Human DNA sequence"
SL-194	SL-193	SL193m13	A4	SL-193	
SL194t7 B4 SL-195 SL195m13 C4 SL195t7 C4 SL-196 SL196m13 D4 SL196m17 D4 MAOAA Management of Maoa M		SL193t7	A4		
SL-195	SL-194	SL194m13	B4	SL-194	HUMKG1DD - KIAA0098 gene
SL19517		SL194t7	B4		
SL-196	SL-195	SL195m13	C4 .	SL-195	
SL196t7 D4 (MAOA)		SL195t7	C4		
SL-197	SL-196	SL196m13	D4	SL-196	HUMMAOAAA monoamine oxidase
SL 19717 E4 SL 198 SL 198m13 F4 SL 198 SL 198t7 F4 SL 199t7 G4 SL 199t7 G4 SL 201t7 A5 A5 A5 A5 A5 A5 A5 A		SL196t7	D4		(MAOA)
SL-198	SL-197	SL197m13	E4	SL-197	
SL198t7 F4 SL199m13 G4 SL199m13 G4 SL199t7 G4 SL201m13 A5 SL201t7 A5 (Mouse ESTs only)		SL19717	E4		
SL-199	SL-198	SL198m13	F4	SL-198	
SL-201 SL201m13 A5 SL-028 (Mouse ESTs only)		SL198t7	F4		
SL-201 SL201m13 A5 SL-028 (Mouse ESTs only)	SL-199	SL199m13	G4	SL-016	
SL201t7 A5 (Mouse ESTs only)		SL199t7	G4		
SL-202 SL202m13 B5 SL-202 mitochondrial genome & ESTs(?)	SL-201	SL201m13	A5	SL-028	
SL202t7 B5 SL203m13 C5 SL203m13 C5 SL203t7 C5 SL204t7 D5 SL204t7 D5 SL205t7 E5 SL206t7 F5 SL206t7 F5 SL207t7 G5 SL207t7 G5 SL208m13 H5 SL208m13 H5 SL208m13 H5 SL208t7 H5 SL208m13 A6 SL-208 SL208m13 A6 SL-208 SL208m13 A6 SL-208 SL208m13 A6 SL-208 SL208m13 A6 SL-209 SL209m13 A6 SL		SL201t7	A5		
SL-203 SL203m13 C5 SL-040	SL-202	SL202m13	B5	SL-202	mitochondrial genome & ESTs(?)
SL-204 SL204m13 D5 SL-204		SL202t7	B5		
SL-204 SL204m13 D5 SL204t7 D5 SL-204 SL-205 SL205m13 E5 SL205t7 E5 SL-205 SL-206 SL206m13 F5 SL206t7 F5 SL-015 AB006625 - KIAA0287 gene SL-207 SL207m13 G5 SL207t7 G5 SL-207 HUMFOLMES - DHFR dihydrofolate reductase gene SL-208 SL208m13 H5 SL208t7 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209	SL-203	SL203m13	C5	SL-040	
SL-204t7 D5 SL-205 SL-205 SL-205 SL-205 SL-206 SL-206m13 F5 SL-206 SL-206m13 F5 SL-207 SL-207 SL-207 SL-207 SL-207 SL-207 HUMFOLMES - DHFR SL-207 G5 SL-208 SL-208 SL-208m13 H5 SL-208 SL-208 SL-208m13 H5 SL-208 SL-208 SL-209 SL-209m13 A6 SL-209 SL-209 SL-209m13 A6 SL-209 SL-209 SL-209m13 A6 SL-209 SL-209 SL-209m13 SL-209 SL-209m13 SL-209 SL-209m13 SL-209 SL-209m13 SL-209m13 SL-209 SL-209m13 SL-209m		SL203t7	C5		
SL-205 SL205m13 E5 SL205t7 E5 SL-205 SL-206 SL206m13 F5 SL206t7 F5 SL-015 AB006625 - KIAA0287 gene SL-207 SL207m13 G5 SL207m13 G5 Gibydrofolate reductase gene SL-208 SL208m13 H5 SL208m13 H5 SL208t7 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209	SL-204	SL204m13	D5	SL-204	
SL-205t7 E5 SL-206 SL-206m13 F5 SL-2015 AB006625 - KIAA0287 gene SL-207 SL207t7 F5 SL-207 HUMFOLMES - DHFR SL207t7 G5 Gihydrofolate reductase gene SL-208 SL208t7 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209		SL204t7	D5		
SL-206 SL206m13 F5 SL-015 AB006625 - KIAA0287 gene SL-207 F5 SL-207 HUMFOLMES - DHFR SL207t7 G5 G5 G6 SL-208 SL208m13 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209	SL-205	SL205m13	E5	SL-205	
SL206t7 F5 SL207m13 G5 SL-207 HUMFOLMES - DHFR SL207t7 G5 dihydrofolate reductase gene SL-208 SL208m13 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209		SL205t7	E5		
SL-207 SL207m13 G5 SL-207 HUMFOLMES - DHFR dihydrofolate reductase gene SL-208 SL208m13 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209	SL-206	SL206m13	F5	SL-015	AB006625 - KIAA0287 gene
SL207t7 G5 dihydrofolate reductase gene		SL206t7	F5		
SL-208 SL208m13 H5 SL-208 AB011165 - KIAA0593 SL-209 SL209m13 A6 SL-209	SL-207	SL207m13	G5	SL-207	HUMFOLMES - DHFR
SL208t7 H5 SL-209 SL209m13 A6 SL-209		SL20717	G5		
SL-209 SL209m13 A6 SL-209	SL-208	SL208m13	H5	SL-208	AB011165 - KIAA0593
		SL208t7	H5 ·		
SL209t7 A6	SL-209	SL209m13	A6	SL-209	
		SL209t7	A6		

batch 1	
batch 2	
batch 3	
batch 4	

TABLE 2

	8	BlastN vs. Gb (nearest neighbor)				
Seq. Name					BlastX vs. NRPdb (nearest neighbor)	
and/or Other Seq.		-				
Name.	Accession	Hit Description	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		,	
10-s/16-117	<none></none>		NONE VIOLET	ACCESSION	Hit Description	P(V)
			SUCCES OF SUCCES	<none></none>	<none></none>	KNONE,
0					METALLOTHIONEIN (MT)>PIR2:S30567	
12-0118-01	«NONE»	<none></none>	<none></none>	MT PLEPL	Prolatessa mRNA for metallotticoda	
		SEQUENCING IN PROGRESS				0.32
		PAC clone on leasure: UTCs				
22si4	AC004601	AC004601 phase 1, 3 unordered pleces.	0.016	VP1 RDCUD		
		Homo sapiens chromosome 16 BAC			FIGURIA VP.1 (ORF.1)	1.0
97510	-					
	Ar001548	Arun 1349 Sequence.	7.26-28	ALU6 HUMAN	ALUG HUMAN IIII ALLI SLIBEAMII V SB WADNING THE	_
32sl13	AEOOESEO	Homo sapiens Rad51-interacting			Mus musculus RAD51-hinding protein RAB22	3.5e-07
	01 000238	occess protein many, complete cds.	1.26-09	MMU93583_1	mRNA, complete cds	1 20 43
					Mus musculus transcription factor Genesis	21.07.1
			_		mRNA, complete cds; A winged helix retinoic-	
		Human prostatic acid phosphataco			acid hepatocyte nuclear factor 3/forkhead	
39-sl3-1m13	U07083	(ACPP) gene, exon 1.	1 10-00	NAMA LATOAT	transcription factor; HNF3/FH transcription	
47.4115.217	0.000	Sequence 2 from Patent EP			lacior	0.36
13-010	90000	0272928.	4.89-52	<none></none>	<none></none>	בולט בולט בולט
					SIK1 PROTEIN>PIR2:S48550 hypothetical	A CONTRACTOR OF THE PROPERTY O
					protein YLR197w - yeast (Saccharomyces	
		Homo saniens PAC clone			cerevisiae)>GP:SCU20237_1 Saccharomyces	
		DJ0844F09 from 7012-013			cerevisiae Sik1p (SIK1) gene, complete cds;	
sl102m13	AC004453		7 0 2		Possible microtubule binding protein; similar to	
			2.08-30	SINI_YEASI	GenBank Accession Number U14913	2.7e-09
9		Human BAC clone RG114A06 from			Mouse CBA/J Ig heavy chain V1 region	
si nosmi s	AC002542	AC002542 7q31, complete sequence.	0.78	MUSIGHV01B 1	Pseudogene, 3 end; 1g neavy chain precursor; Possible pseudogene	
		Himan BAC close BO1114000			Mouse CBA/J ig heavy chain V1 region	0.30
sl103t7	AC002542		1 00 44		pseudogene, 5' end; lg heavy chain precursor;	
			111-90.	MUSICHV01B_1	WUSIGHV01B_1 Possible pseudogene	L

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	B	BlastN vs. Gb (nearest neighbor)			BlactY ve NIDDalt (occessed solichted)	
Seq. Name					Diasis vs. Mnr do (Healest Heighbor)	
and/or Other Seq. Name.	Accession	Hit Description	E/S	Accession	Lii Deorizia	Š
					HYPOTHETICAL PROTEIN MJ0694>PIR2:F64386 hypothetical protein	2
					MJ0694 - Methanococcus jannaschil>GP:U67516_8 Methanococcus	
3		Sequence 6 from patent US			jannaschii section 58 of 150 of the complete genome; Conserved hypothetical protein:	·
SI I UDI /	148979	5627054.	4.39-39	Y694_METJA	Similar to SP:Q12499 PID:1420682 PI	1.5e-08
s1107t7.fsa	AL021395	Human DNA sequence SEQUENCING IN PROGRESS AL021385 from clone 269M15; HTGS phase 1	2 Ga-07	ALLIA HIMAN	IIII ALU SUBFAMILY SB2 WARNING ENTRY	
		HS-1008-A2-A05-MF abi CIT Human	3	ALCA LICINON		0.45
		Genomic Sperm Library C Homo		-		
		sapiens genomic clone Plate=CT 330 Col=10 Row=A genomic suppose		-		
s1124t7	B31344	sequence.	1.08-55	ALUZ HIMAN	III ALLI SCIBEAMII V SO WABNING ENITORI	
					LIVERTHETICAL TER ARE STREET SE	1.28-14
					HYPOTHETICAL THP-ASP REPEATS CONTAINING PROTEIN C18B11,10 IN	
					CHROMOSOME I>PIR2:S58306 hypothetical	
					Pioteili ar Acide II. IU - Ilssion yeast	
		Human DNA sequence from PAC			(Schizosaccharomyces	
1		138A5 on chromosome X contains			pombej>GP:SPAC18B11_10 S;pombe chromosome I cosmid c18B11: Hakaowa:	
18172/1/	Z83818	ESTs.	2.89-16	YA3A_SCHPO	SPAC18B11;10, le	0.97
		Homo sapiens chromosome 5, P1		-	Homo sapiens BAC clone RG013N12 from	
s1135m13	AC003959 sequence.	sequence.	1.8e-57	AC004416 5	7q31;2, complete sequence; H_RG013N12:row:1335199:a	940
		Human PAC clone D.11055C04 from			A; thaliana transcribed sequence; clone VDV28-	-
sl13517	AC003044	AC003044 7p15-7p21, complete sequence.	3.86-25	ATTS0669 1	44794, 3 Bhd; Similar to nonspecific lipid-	
		Homo sapiens; HTGS phase 1, 53				0.//
SII44m13	AC003684	AC003684 unordered pieces.	2.29-10	<none></none>	<none></none>	ANONE,
		SEQUENCING IN PROGRESS				ZINOINE
		Clone 155b01: HTGS phase 1 11	-			
5114417	AC004089	AC004089 unordered pieces.	0.25	<none></none>	NONE,	. (1)

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	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
SL149m13 WE97.H7.M13	M87923	Human carcinoma cell-derived Alu RNA transcript, clone CE12.	7.28-55	ALU2 HUMAN	ALUZ HUMAN IIII ALU SUBFAMILY SB WARNING ENTRY IIII	4.76-17
		Homo sapiens DNA polymerase				
		gamma (POLG) gene, nuclear gene				
St 150m13 WE		encoung milocrionarial protein,				
97.A8.M13	AF019122	AF019122 sequence.	5.58-07	<none></none>	<none></none>	KNONE>
		Cyanidium caldarium RK1				
SL152m13	AF022186	AF022186 chloroplast sequence.	0.11	<none></none>	<none></none>	KNONE
		Homo saplens Xp22 BAC GSHB-				
	•	257G1 (Genome Systems BAC			artifact-warning sequence (translated ALU class	
SL152t7	AC002524	AC002524 Library) complete sequence.	3.5e-28	F40201	F) - human	1.2e-05
		Human 4-hydroxyphenylpyruvate-			artifact-warning sequence (translated ALU class	
SL153m13	U29895	dloxygenase gene, complete cds.	4.40-15	C40201	C) - human	0.49
					X-linked retinopathy protein (C-terminal, clone	
•					XEH.8c) - human (fragment)>GP:S58722_1 X-	
					linked retinopathy protein (3' region, clone	
		Human 4-hydroxyphenylpyruvate-			XEH;8c} [human, mRNA Partial, 390 nt]; This	
SL15317	U29895	dioxygenase gene, complete cds.	5.1e-09	A46010	sequence comes from Fig; 5	0.070
					GENOME POLYPROTEIN (CONTAINS: N-	
					TERMINAL PROTEIN; HELPER COMPONENT	
					PROTEINASE (EC 3.4.22) (HC-PRO); 42-50	
					KD PROTEIN; CYTOPLASMIC INCLUSION	
_					PROTEIN (CI); 6 KD PROTEIN; NUCLEAR	
St 155m13	799286	V7AQC complete seguence	9100	TANGG SICG	INCLUSION PHOLEIN A (NI- A) (EC 3.4.22)	•
	20000	Unaco Observa and an analysis	0.0	LOCG LUSVA	(490 FOOTEINAGE) (49	5
		CIT987SK-A-363E6, complete				
SL157m13	U91321	sequence.	6.09-26		ALU1_HUMAN IIII ALU SUBFAMILY J WARNING ENTRY IIII	4.58-11

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		BlastN vs. Gb (nearest neighbor)			Black Vice MBDdh (nooroof minther)	
Seq. Name and/or Other Seq.					Classic vs. (virtuo (libales) lielylibol)	
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	S
					PROCOLLAGEN ALPHA 3(IV) CHAIN PRECURSOR>PIR1:CGHU3B collagen alpha	
		·			3(IV) chain precursor, long splice form - human>GPN: HSCOL4A3_1 H;sapiens COL4A3	
SI 16017		LINCH	ļ		mRNA; Type IV collagen alpha 3 chain>GP:HSCOL4A3_1 H;saplens COL4A3	
	1	ANONIA	ANONEY ANONEY	CA34 HUMAN	mRNA; Type IV collagen alp	0.99
					36.4 KD PROLINE-RICH PROTEIN>PIR2:S19129 proline-rich protein	
SL16217	•	Mouse microsatellite marker DNA			TPRP-F1 - tomato>GP:LETPRPF1_1 L; esculentum TPRP-F1 gene for a proline rich	
WEST. ES. 1 /	X58263	D4SMH6b, 4.	0.0029	PRF1_LYCES	protein	000
		*** SEQUENCING IN PROGRESS Home sapiens chromosome 17				66.0
!		clone hRPC.1171_I_10; HTGS				
SL 16917	AC004687	AC004687 phase 1, 4 unordered pieces.	2.5e-11	<none></none>	<none></none>	KNONF.
OL1/4[/	<none></none>	<none></none>	<none></none>	A54895	mucin 2, intestinal/tracheal - rat (fracment)	0.13
07-01-0		Caenorhabditis elegans cosmid				2
SL1/0m13	273424	C44B9, complete sequence.	0.00084	<none></none>	<none></none>	KNONF.
SL17617	783119	Caenorhabditis elegans cosmid	8			
		modifie, complete sequence.	0.38	<none></none>	<none></none>	<none></none>
		Caenorhabdilis elegans DNA SEQUENCING IN PROGRESS			ANNEXIN VII (SYNEXIN)	
SL177m13	AL022279	AL022279 from clone Y43F11; HTGS phase 1.	0.00064	ANX7 BOVIN	(fragment)	9000
Cl 17717	7	Human Chromosome X, complete			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0010
05.17.1	AC002416	ACUU2416 sequence.	1.8e-17	<none></none>	<none></none>	<none></none>
		Caenorhandlis alegans comis			Gepaea nemoralis complete mitochondrial genome; ATPase subunit 8>GP:CMU23045_8	
SL179m13	AF039052 T22D1.	T22D1.	0.030	CMU23045 8	Cepaea nemoralis complete mitochondrial	6
SL179t7	L41631	Mus musculus glucokinase gene, complete cds.	0.017	<none></none>		88.0
						XNONE XNONE

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	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq. Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(X)
SL181m13	. 29886Z	Caenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52B11; HTGS phase 1.	0.017	PS0245	hypothetical protein (cpcG4 region) - Anabaena sp. (strain PCC 7120) (fragment)>GP:ANARODCORA_6 Anabaena sp; cpcF gene, 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown ORF, 3' end	66 0
SL18117	79886Z	Caenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52B11; HTGS phase 1.	0.018	PS0245	hypothetical protein (cpcG4 region) - Anabaena sp. (strain PCC 7120) (fragment)>GP:ANARODCORA_6 Anabaena sp; cpcF gene, 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown ORF, 3' end	0.99
SL191m13	798867	Caenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52B11; HTGS phase 1.	0.019	NON S	· «NONE»	NONE,
SL195m13	AC004626	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome #16q12.1+16q22/23+1q11/12 BAC clone CT987SK-A-427H10; HTGS AC004626 phase 1, 15 unordered pleces.	0:050	HSU55091_1	Human isolate HR015 T cell receptor V-beta complementarity determining region 3 mRNA, partial cds	0.1
SL195t7	AC004626	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome #16q12.1+16q22/23+1q11/12 BAC clone CIT987SK-A-427H10; HTGS AC004626 phase 1, 15 unordered pleces.	0.053	S54078	probable membrane protein YPR056w - yeast (Saccharomyces cerevisiae)>GP:SC9499X_12 S;cerevisiae chromosome XVI cosmid 9499; Unknown; YP9499;12, unknown, len:338, CAI: 0;12, similar to S44455, transcription factor BTF2 chain p34, (29:3% Identit	0 64
SL197m13	Caenori AF003134 ZC581.	Caenorhabditis elegans cosmid 2C581.	0.99	<none></none>	«NONE»	ANONE
SL19717	U43400	Human herpesvirus-7 (FIHV7) JI, complete virion genome.	0.99	<none></none>		ANON!
SL1917	V00073	Sindbis virus sequence complementary to 26S messenger RNA.	3.26-09	<none></none>	·	NONE,

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	BIB	BlastN vs. Gb (nearest neighbor)			BlastY ve NBPah (negreet pointhor)	
Seg. Name					DiasiA vs. Ivin up (Healest Heighbor)	
and/or Other Seq.			:			
Maillo.	Accession	HII Description	ES-	Accession	Hit Description	<u>S</u>
SL201m13	AB001684	Chlorella vulgaris C-27 chloroplast AB001684 DNA, complete sequence.	0.0013	SIU05069 1	Simian immunodeficiency virus SIVRhE543 clone 5-4 envelope glycoprotein (env) gene, V1 region, partial cds	-
SL20117	AB001684	Chlorella vulgaris C-27 chloroplast AB001684 DNA, complete sequence.	0.0014	HUMLTBP 1	Homo sapiens (clone H 4;4) latent transforming growth factor- beta binding protein (LTBP-1L) gene, partial cds; Latent transforming growth factor-binding protein	2
SL204m13	Z49910	Caenorhabditis elegans cosmid F44G4, complete sequence.	1.09-11	CEF44G4 1	Caenorhabditis elegans cosmid F44G4, complete sequence; F44G4;1; Similarity to 35;1KD hypothetical yeast protein (Swiss Prot accession number P38805); cDNA EST CEMSE65F comes from this	0.1
SL20417	Z49910	Caenorhabditis elegans cosmid F44G4, complete sequence	0 30.13		Caenorhabditis elegans cosmid F44G4, complete sequence; F44G4;1; Similarity to 35;1KD hypothetical yeast protein (Swiss Prot accession number P38805); cDNA EST	50.0
SL28m13	<none></none>	ŀ	«NONE»	<none></none>	CEMISEOSI COMBS ION NIS	2.38-71 ANONE
S12817	284469	Human DNA sequence *** SEQUENCING IN PROGRESS *** from clone 390013; HTGS phase 1.	2.98-53	<none></none>	<none></none>	ANONE ANONE
SL29m13	Homo say 363118 (R Institute H AC004465 complete	Homo sapiens 12q24 PAC RPCI3- 363118 (Roswell Park Cancer Institute Human PAC library) complete sequence.	3.38-09	3.38-09 MCRA_METFE	METHYL-COENZYME M REDUCTASE ALPHA SUBUNIT (EC 1.8)>GP:MEFMCRC_5 M;fervidus methyl coenzyme M reductase component C genes mcrA, mcrB, mcrC, mcrD, and mcrG, complete cds; Methyl coenzyme M reductase alpha subunit	0.95
SL2917	AC004465	Homo sapiens 12q24 PAC RPCI3- 363118 (Roswell Park Cancer Institute Human PAC Ilbrary) AC004465 complete sequence.	0.97	MCRA_METFE	METHYL-COENZYME M REDUCTASE ALPHA SUBUNIT (EC 1.8)>GP:MEFMCRC_5 M;fervidus methyl coenzyme M reductase component C genes mcrA, mcrB, mcrC, mcrD, and mcrG, complete cds; Methyl coenzyme M MCRA_METFE reductase alpha subunit	26.0

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	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq. Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P ₍
SL4M13	D42085	Human mRNA for KIAA0095 gene, complete cds.	2.0e-27	HUMKIAAP_1	Human mRNA for KIAA0095 gene, complete cds; KIAA0095 gene is related to S;cerevisiae NIC96 gene	3.68-12
SL54m13	Z68694	Human DNA sequence from cosmid cU177E8, between markers DXS366 and DXS87 on chromosome X.	4.98-28	HUMF8L1A_1	Human factor VIII gene L1 element insertion DNA; Unknown protein; ORF; putative	1.26-12
SL6117	AB001684	Chlorella vulgaris C-27 chloroplast DNA, complete sequence.	0.00083	i .	Homo saplens CDO mRNA, complete cds; Immunoglobulin superfamily member; contains fibronectin type III-like domain	1.0
	•	* SEQUENCING IN PROGRESS *** Plasmodium falciparum 3D7 Chromosome 12 PFYAC812				
SL6217	AC004153	genomic sequence; HTGS phase 1, 26 unordered pleces.	1.0	<none></none>	<none></none>	<none></none>
		*** SEQUENCING IN PROGRESS *** Plasmodium falciparum 3D7				
	•	chromosome 12 PFYAC293				
SL68m13	AC004157	genomic sequence; HTGS phase 1, 18 unordered pleces.	0.00071	<none></none>	NONS	ANONE>
	·	Clona intestinalis genomic fragment, clone 17H6, genomic survey				
SL6817	AJ226619	AJ226619 sequence.	0.064	<none></none>	<none></none>	KNONE
					Borrelia burgdorferi (section 65 of 70) of the complete genome; Competence protein F,	
		H.saplens CA/GT repeat			putative; Similar to GB:M59751 SP:P31773 PID:1573409 percent identity: 27:00: identified	
SL69m13.fsa	Z22789	polymorphism sequence.	1.98-22	AE001179_2	by sequence	1.0
		Plasmodium falciparum DNA ***			Borrelia burgdorferi (section 65 of 70) of the complete genome: Competence protein F	
		SEQUENCING IN PROGRESS ***			putative; Similar to GB:M59751 SP:P31773	
SL6917	AL010138	from contig 3-66, complete AL010138 sequence.	0.21	AE001179 2	PID:1573409 percent identity: 27;00; identified by sequence	0
SL75m13	AC002536	Human Chromosome 11 pac AC002536 pDJ1075f20, complete sequence.	1.0	1 1	B;taurus mRNA for complete thrombospondin	0.0074

TABLE 2

	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seg.	-					
Name.	Accession	Hit Description	P(X)	Accession	Hit Description	P(V)
		Buchnera aphidicola UDP-N-				
		acetylmuramate: L-alanine ligase				
		(murC157), D-alanine: D-alanine				
		ligase (ddlB), cell division protein				
		(ftsA), cell septation protein (ftsZ),				
SL7717	AF012886	and pfs genes, complete cds.	0.40	<none></none>	<none></none>	KNONE
		Caenorhabditis elegans cosmid				
SLB6m13	Z69790	F33C8, complete sequence.	0.020	<none></none>	<none></none>	<non></non>
		Acanthonevra sp. 16S rlbosomal				
	•	RNA gene, mitochondrial gene				
	•	encoding mitochondrial RNA, partial				
SL8617	N39368	sequence.	0.054	<none></none>	<none></none>	ANONE
SL90m13	<none></none>	<none></none>	<non></non>	<none></none>	<none></none>	<none></none>
		P.falciparum complete gene map of			Shigella sonnei DNA for 26 ORFs, complete	
SL94m13	X95276	plastid-like DNA (IR-B).	0.0096	SHFORF_1	cds; ORF1	0.15
					X-linked retinopathy protein (C-terminal, clone	<u>.</u>
					AED.00) - Hullian (Hayineni)>01.330/22_1 A-	
		Human DNA sequence			linked retinopathy protein (3' region, clone	
		SEQUENCING IN PROGRESS ***			XEH;8c} [human, mRNA Partial, 390 nt]; This	
SL9417	AL022313	AL022313 from clone 1119A7; HTGS phase 1.	6.09-18	A46010	sequence comes from Fig; 5	5.79-07

CLAIMS

WE CLAIM:

- 1. A method of diagnosing cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations comprising:
- (a) providing a polynucleotide probe that comprises a sequence capable of hybridizing to any one of the sequences shown in SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said probe under hybridizing conditions that permit formation of a duplex; and
 - (c) determining the presence of said duplex.
- 2. The method of claim 1, wherein said polynucleotide probe comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 3. The method of claim 2, wherein said polynucleotide probe comprises 8 contiguous nucleotides of the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
- 4. A method of diagnosing cancer, tumor progression, or hyper-proliferative cell growth comprising:
- (a) providing an antibody capable of binding to a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said antibody under binding conditions that permit formation of an antibody-polypeptide complex; and
 - (c) determining the presence of said complex.
- 5. The method of claim 4, wherein said antibody is capable of binding to a polypeptide comprising at least six contiguous amino acid of a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof.

- 6. The method of claim 5, wherein said polypeptide comprises at least six contiguous amino acids of a polypeptide encoded by any one the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
 - 7. A diagnostic kit comprising:
- (a) a diagnostic reagent comprising a polynucleotide probe that comprises a sequence capable of hybridizing to any one of SEQ ID NO:339 or complement thereof when said sequence is present in a test biological sample;
 - (b) a normal biological sample; and
- (c) instructions for detecting differences that exist between the levels of duplexes in said test biological sample as compared to said normal biological sample.
- 8. A method of treating a mammal with cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations, said method comprising administering to said mammal a composition that comprises a therapeutically effective amount of a polynucleotide comprising a sequence capable of hybridizing under stringent conditions to any one of SEQ ID NO:1-339 or complement thereof.
- 9. The method of claim 8, wherein said polynucleotide comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 10. The method of claim 9, wherein said polynucleotide is an antisense construct.
- 11. The method of claim 9, wherein said polynucleotide is a ribozyme construct.

- 12. An isolated polynucleotide selected from the group consisting of:
- (a) a polynucleotide comprising the nucleotide sequence of any one of SEQ ID NO:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
- (b) a polynucleotide encoding a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of at least one of sequences of (a).
 - 13. A vector comprising the polynucleotide of claim 12.
 - 14. A host cell comprising the vector of claim 13.
- 15. A composition comprising a polypeptide, wherein the polypeptide is selected from the group consisting of:
- (a) a polypeptide encoded by any one of the polynucleotides of claim 12, and
 - (b) a variant of the polypeptide of (a).

Sequence Range: 1 to 1383

10 20 30 40 50 60
TTA CTC ACT ATA GGG CTC GAG CGG CCC GGG CAG GTG TAA AAA TAA AAT GAC AGT TTG AAC ATA CAA AAT GAG TGA TAT CCC GAG CTC GCC GGC GGG CCC GTC CAC ATT TTT ATT TTA CTG TCA AAC TTG TAT GTT <E S Y P E L P R G P L H L F L I V T Q V Y L 100 AAC CCA CCC CAT TCC TAT AGA GCC TAG TAC TAC ACT ACC CCC TCC CAA CTT TAG CCT CCA CAT ATA GTA
TTG GGT GGG GTA AGG ATA TCT CGG ATC ATG ATG TGA TGG GGG AGG GTT GAA ATC GGA GGT GTA TAT CAT

V W G M G I S G L V V S G G G L R L R W M Y Y 160 170 140 150 160 170 180 190 200

ATG TGC TTG GAA CAC AAA AAA CAC TTC ATA AAT TGT GCT GAA TGA AAT CAT TTC CAT GAG TGT TTA TGG
TAC ACG AAC CTT GTG TTT TTT GTG AAG TAT TTA ACA CGA CTT ACT TTA GTA AAG GTA CTC ACA AAT ACC

<H A Q F V F F V E Y I T S F S I H E H 180 210 220 230 240 250 260 270
ATT TTG AGT TCA TTT GTA CCT TTT ACC TAA AAT TCT AGC CAC TTT AAT TTG GAG AGT TTC CAG AGC AAA
TAA AAC TCA AGT AAA CAT GGA AAA TGG ATT TTA AGA TCG GTG AAA TTA AAC CTC TCA AAG GTC TCG TTT 300 310 GGA CCT TTT ACC TAA AAT TCT AGC CAC TTT AAT TTG GAG AGT TTC CAG AGC AAA GGG CAC AGA TCC CAG CCT GGA AAA TGG ATT TTA AGA TCG GTG AAA TTA AAC CTC TCA AAG GTC TCG TTT CCC GTG TCT AGG GTC 350 360 370 380 390 400 410
GCA TAA CAA CGC TTT GCG TAT ACA GCA ACC AAT ATC TTG TCA ACC CAA GAA AGT TCC TCC ATT GAT ACC
CGT ATT GTT GCG AAA CGC ATA TGT CGT TGG TTA TAG AAC AGT TGG GTT CTT TCA AGG AGG TAA CTA TGG 440 450 TAG TAG ANA TAG CCC AGT TIT TAN AGT CCT CAN ANC TGT ANC ANN TITA CTT GTT TIT ANN ATT TAN CTT ATC ATC TTT ATC GGG TCA ANN ATT TCA GGA GTT TTG ACA TTG TTT AAT GAN CAN ANN TIT TAN ATT GAN 490 500 510 520 530 540 550

AAA TTA ATA CAA TCA GAT TTT TGT GTT ATT TGG GTA TTA GAG TAT GTT AAA GCA CAT ATA TCC CAG AGA
TTT AAT TAT GTT AGT CTA AAA ACA CAA TAA ACC CAT AAT CTC ATA CAA TTT CGT GTA TAT AGG GTC TCT 560 570 580 590 600 610 620 CAT AGA GTT TCA AAA AGT CAT GCA TTC ATG TGT GCT AAT GAC AAT CCT ATC CTG ACC CGC TAT GTA TCT CAA AGG CAA AGT TTT TCA GTA CGT AAG TAC ACA CGA TTA CTG TTA GGA TAG GAC TGG GCG ATA 630 640 650 660 670 680 690 GTG ACT TGT ATC TCT AAA CCA TAG GCT TTC CTG AAT TTT ATC TGT TAA TTT AAC CCT GAT TTC TCA GCA CAC TGA ACA TAG AGA TTT GGT ATC CGA AAG GAC TTA AAA TAG ACA ATT AAA TTG GGA CTA AAG AGT CGT 700 710 720 730 740 750
GCA GCT TCT TGT AAA TAG ACT TGC CTC TTC TGT GTC TGA CCT CTG CTC CTC ATA ATC AGA TTA ACT
CGT CGA AGA GAA ACA TTT ATC TGA ACG GAG AAG ACA CAG ACT GGA GAC GAG GAG TAT TAG TCT AAT TGA 780 790 800 810 CAG ATA AAG CTG CTT CAG GGA AGA GGT CAA AAC CGT TGC CAA AAA TAG TAG TTG CCC TAC TTC AGT CTA GTC TAT TTC GAC GAA GTC CCT TCT CCA GTT TTG GCA ACG GTT TTT ATC ATC AAC GGG ATG AAG TCA GAT 130 840 850 860 870 880 890
TTT TCA ACA GAG TAG CCA GGA GAT CCT GTT CAC ACC AAA GTC CAA TCA GCC CTA CTG TTA GCA CTC TGC
AAA AGT TGT CTC ATC GGT CCT CTA GGA CAA GTG TGG TTT CAG GTT AGT CGG GAT GAC AAT CGT GAG ACG 920 930 940 TCA CAA GCC TCC AGT GGC TTC CGA CCT CAC TCA CAG TAA AAG CCA AGT CAT CCT TTA GCC TAT GAT GTC AGT GTT CGG AGG TCA CCG AAG GCT GGA GTG AGT GTC ATT TTC GGT TCA GTA GGA AAT CGG ATA CTA CAG 1000 1010 CTA CAT GAT TTG AAT TCC CTT CCA TTG ATT TTT GTC ACT GAT TTT TAA AAA TCC AAA TTC ATT CTC ATA GAT GTA CTA AAC TTA AGG GAA GGT AAC TAA AAA CAG TGA CTA AAA ATT TTT AGG TTT AAG TAA GAG TAT 1070 CAG CTG AAT TGT CCT CTT TGC TTT AAG TAT GCC AGG ATT ATT TCT ACC TCA GGG CCT TTG CAC TTG ATA GTC GAC TTA ACA GGA GAA ACG AAA TTC ATA CGG TCC TAA TAA AGA TGG AGT CCC GGA AAC GTG AAC TAT 1140 1130 THE CET TEA CET TIT CEA AGA TAG TTA TTE CET CAC CTC AGT CAA GCC TIT ATT TAG ATG CEE CET TET AAG GGA AGT GGA AAA GGT TET ATT AAT AAG GGA GTG GAG TEA GTT CGG AAA TAA ATC TAC GGG GGA AGA 1200 1210 1220 CAT CAA GGC ATT CTC TGA TCT CCT TAT TTA AAT GTA TGA CAC CCC TTC TTT GCT TTA CAT TTA ATC AGA GTA GTT CCG TAA GAG ACT AGA GGA ATA AAT TTA CAT ACT GTG GGG AAG AAA CGA AAT GTA AAT TAG TCT 1280 1290 ACA TGT GTC ACT ATC TAG CAT ATA ATA CAT TTG CTT GAC CTC TTT TGT TTA CTG TCT ATG CCT CCT GAA TGT ACA CAG TGA TAG ATC GTA TAT TAT GTA AAC GAA CTG GAG AAA ACA AAT GAC AGA TAC GGA GGA CTT 1320 1330 1340 1350 1360 1370 1380
TAC TGT GTA AGC TCC ACG ATA CAG GCA CTT TTC TCT ATT TCG AGC ACT GTT GTA TTA CAG AGC CTT AAA
ATG ACA CAT TCG AGG TGC TAT GTC CGT GAA AAG AGA TAA AGC TCG TGA CAA CAT AAT GTC TCG GAA TTT

Sequence Range: 1 to 1815

30 40 50 ACT TIT TGT TCA TIT TGA TIT TTG GAT AAT GCA AAA TTA TAG ATT TIT TAA AAA TTA TAT TCA AAG AAT TGA AAA ACA AGT AAA ACT AAA AAC CTA TTA CGT TTT AAT ATC TAA AAA ATT TTT AAT ATA AGT TTC TTA 70 80 90 100 110 120 130
ACT GAG TGC AAG ACA ATC TTT CTA GGT TAA AAA ATA TCT TAT AAA CCT GAA TTG TCA ATT ATT ATT GTA
TGA CTC ACG TTC TGT TAG AAA GAT CCA ATT TTT TAT AGA ATA TTT GGA CTT AAC AGT TAA TAA TAA CAT 140 150 160 170 180 190 200
TCC CAG ATG TAT GGA AGT TAA TGG ATA GTC AGT AAC ATA CAG GAC TAG CAG AAG GTT TGT TAT AGG
AGG GTC TAC ATA CCT TCA ATT ACC TAT CAG TCA TTG TAT GTC CTG ATC GTC TTC CAA ACA ACA ATA TCC 210 220 230 240 250 260 270
TAA TCT GGA GAG AAG CCA GGT AAG TGG AAT TTG GGA TTT GCT GCT GTT GCC AGA AAG CAC AGA GAC ATT AGA CCT CTC TTC GGT CCA TTC ACC TTA AAC CCT AAA CGA CGA CAA CGG TCT TTC GTC GTG TCT CTG 280 290 300 310 320 330 340
ATG GTA AGT GGC AAG ACC CAG GTA ACT AAA ACA ACC ATG TCT TAG TCC TTT TAT GCT GCT GTA ACA GAA
TAC CAT TCA CCG TTC TGG GTC CAT TGA TTT TGT TGG TAC AGA ATC AGG AAA ATA CGA CGA CAT TGT CTT 350 360 370 380 390 400 410
TAT CAC AGA CTG AGT AAT TTA TAA TGA ACA GAA CTT TAT TTG TCT TCT GGT TCT GGA GAC TGG GAA ATC
ATA GTG TCT GAC TCA TTA AAT ATT ACT TGT CTT GAA ATA AAC AGA AGA CCA AGA CCT CTG ACC CTT TAG 420 430 440 450 460 470 480
TAA GAG CGT GGC ATT GAC ATA TGG TGA GGG CAT TTG TGC CTC ATC ATC CCA TGA CAG AAG ATG GAA ATG ATT CTC GCA CCG TAA CTG TAT ACC ACT CCC GTA AAC ACG GAG TAG TAG GGT ACT GTC TTC TAC CTT TAC 500 520 530 540 CAA GAG AGC TCA AAA GCA AGA GAG CAA ATG GGG CCA AAC TTG CTT TTT ATA ACA AGC CAC TCT TGT GAT GTT CTC TCG AGT TTT CGT TCT CTC GTT TAC CCC GGT TTG AAC GAA AAA TAT TGT TCG GTG AGA ACA CTA 560 570 580 590 600 610 620 AAT GAA CCA ACT CAA ACA ATA AAG ACA TAA ATC CAT TCA TGA GGG CAG AGC CCT CAA GGA TGA ATC ACT TTA CTT GGT TGA GTT TGT TAT TTC TGT ATT TAG GTA AGT ACT CCC GTC TCG GGA GTT CCT ACT TAG TGA 650 660 TCA CTT CTT A ATG GCC TCA GCT TCT AAT ACC ATC ACA ATA GTA ATT CAG TTT CAA CAT GGG TTT TAT AGT GAA GAA T TAC CGG AGT CGA AGA TTA TGG TAG TGT TAT CAT TAA GTC AAA GTT GTA CCC AAA ATA M A S A S N T I T I V I Q F Q H G F Y> FOO 700 710 720 730 740 750

AGG GAC GTT GGA ACC ACA GCA AAC TGT AAC CAT TTT GAT TTC CTT ATT TGC ACC ATT TTA AAA AAA CCT
TCC CTG CAA CCT TGG TGT CGT TTG ACA TTG GTA AAA CTA AAG GAA TAA ACG TGG TAA AAT TTT TTT GGA
R D V G T T A N C N H F D F L I C T I L K K P> 780 790 800 770 ATT TAT TTA ACG ACT GTT TAT TCA GTG CCT ATT CTG TTG TGT TGG GGA CTA GAG GTA ATT ACA AAG GGA TAA AAA TGC TGA CAA ATA AGT CAC GGA TAA GAC ACA ACC CCT GAT CTC CAT TAA TGT TTC CCT LTTVYSVPILLCW 830 840 850 860 870 880 890
ATA AGA CAA ACA GTC ACC CAC TCT GGT GAT GCT TCC CTT ATC TTC ATA ATG CAT TTG ATC CTG TG ATT
TAT TCT GTT TGT CAG TGG GTG AGA CCA CTA CGA AGG GAA TAG AAG TAT TAC GTA AAC TAG GAC AC TAA
I R Q T V T H S G D A S L I F I M H L I L> 900 910 920 930 940 950 960 CTT TGG CAC ATG AGT CCA TTG CAT CTT GCA TAT TAG TGT CCA GTA AGT TTT TCC TGA CCA ATT GAT AAT GAA ACC GTG TAC TCA GGT AAC GTA GAA CGT ATA ATC ACA GGT CAT TCA AAA AGG ACT GGT TAA CTA TTA 1040 1050 · 1060 1070 1080 1090 1100 GTC TCA GAA AAA TAC AGA AAA TGG TTA AAG ACA GGA GGA TAC TAC CCT GAT TTC TCT GTT CAT TAA AGA CAG AGT CTT TTT ATG TCT TTT ACC AAT TTC TGT CCT CCT ATG ATG GGA CTA AAG AGA CAA GTA ATT TCT 1130 1140 1150 1120 ACA GCT ATT TGG GGG GAA AAC CTG ATA CAA TTA TTT GAG CAT GTG GCT TAA AGA TTA GAC CTA TAA ACA
TGT CGA TAA ACC CCC CTT TTG GAC TAT GTT AAT AAA CTC GTA CAC CGA ATT TCT AAT CTG GAT ATT TGT 1190 1220 1200 1210 ATT CAG GAG CAT CTT CCA GCA AAC TGT GTG AGA ATT CAC AGA AAT AAA CCT GGT AGG TTT GTG CTA TGT TAA GTC CTC GTA GAA GGT CGT TTG ACA CAC TCT TAA GTG TCT TTA TTT GGA CCA TCC AAA CAC GAT ACA 1270 TAT TCA CAT GGG CTG TTA ACT CTT TTC CAT TCC TAG GTC CTT TAT TTC CCT GCC CTC CTC AAT CTC ATG ATA AGT GTA CCC GAC AAT TGA GAA AAG GTA AGG ATC CAG GAA ATA AAG GGA CGG GAG GAG TTA GAG TAC 1340 1350 CTC TTG AGA TIT TTA ACT ATA TTA CTT CTT TAC AAA GTC ATC TTC AAA ATG ATT CAT TTT GGA TAG CAA

FIGURE 2

SL5 Immunohistochemistry Comparison of Tumor vs Normal

2 3 4	4	\vdash	8		9	D 1:	8	6	
Ä	Adrenal	_ 1	Ovary	Ovary	Ovary	Ovary	⊜ Breast	∵ Breast	S Breast
(++4) (+2) (+		+	(++4)	(++4)	(+4)	(++4)	ına	(+4)	(+1)
w (-) (-)		3	wp	(·)	(·)	(·)	na	(•)	()
(+2) (+2) (+		٦	(1	(+1)	na		(++1)	ua	na
(-)			(·)	(·)	na		(·)	na	na
Colon Colon C		ပ	Colon	Prostate	Prostate	Prostate	Prostate	Uterus	Cerylcal
) (+++4) (+++4))	(+4)	(+3)	(++3)	(+3)	(++3)	(++4)	(+2)
(·)	(-)		(·)	(·)	(·)	(-)	€	€	€
(+2)			++3)	۷	(++2)	(+1)	(++5)	(+2)	(++2)
⊙			⊙	(-)	(·)	(-)	(·)	(-)	(-)
y Kidney		호	Kidney	Pancreas	Pancreas	Pancreas	Pancreas	Lelomyo.	Lelomyo-
(+4)		٦	(++4)	(+++4)	(++4)	(++4)	(+++4)	(+4)	(++4)
(·)	€		⊙	(-)	(-)	(-)	(·)	EDG	EDG
٥				(+1)	(+1)	(++2)	(+1)		
(•)				(•)	(-)	(-)	(-)		
Liver Liver Sto		Sto	Stomach	Stomach	Stomach	Lymphoma	Lymphoma	Lymphoma	Lymphoma
(+4) (++4)	(++4)		<u>:</u>	na	na	(+4)	(+2)	(+2)	(+1)
	(C)		€	na	na	€	(-)	()	(-)
na na	na		na	na	na	(+1)	(+1)	٤	€
na na	_		na	€	€	()	na	(-)	:
ma Seminoma	4		Thyrold	Thyroid	Thyroid	Thyroid	Fibro.	Fibro.	. Fibro-
(++4)	-		(++4)	na	na		(+4)	(+4)	(++4)
①	-		EDG	wp	EDG	EDG	(•)	(-)	€
(+2)	-		(+1)	(+1)	(++2)	·	(·)	purk(+)	(+2)
(-)	\perp		①	Ξ	€	(·)	(·)	€	na
g g	_	ਨ	Chorlo-	Carcinoid	Chorlo-	Basal Cell	Basal Cell	Basal Cell	Germ Cell
(+4) (+++4) (-		(+4)	(+4)2	(+1)	(++3)	(+3)	(፤	
· · ·	€	l	•	()	(-)	(-)	€	Ξ	EDG
						(+1)	(++1)		(1
						(·)	(-)		Œ

Staining Intensity: -, no staining; + weak; ++ medium; +++ strong staining Staining Percentage: 1: 0-25%; 2: 26-50%; 3: 51-75%; 4: 76-100% For example: (++3) stands for 51-75% of cells have medium staining

NC: Negative Control; na: no tissue materials on slides

FIGURE 3

SEQUENCE LISTING

<110> Zhang, Jimmy
 Astel, Jon H.
 Carroll III, Eddie
 Endege, Wilson O.
 Ford, Donna M.
 Monahan, John E.
 Schlegel, Robert
 Steinmann, Kathleen E.

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<120> GENES AND GENE EXPRESSION PRODUCTS THAT
ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER
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<130> 200130.463

<140> US

<141> 1999-06-11

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<223> n = A,T,C or G

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                                                                          120
ntangegate agetattgna eggaatetet gtganantga nnagetnana tentetecan
                                                                          180
ggaanaacag ntccncaang ctntattnga gacagagcta tgacannnnc ntntntactc
                                                                          240
ngacagteet taggaacene geaantgana nngnggngat genaetagga netgnenenn
                                                                          300
ntagngagcg agcccggtgg ataactgccc tggtacncng nagctgnaaa gccgcctgca
                                                                          360
gaccgaacct gagactgacg tcgcctcanc tatngacnnn nnnccnatnn tgagtgnaag
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cgtnctnatg ngacactcgg ggnccacgat gcanancgct ancnncccnn ggngtgncan
                                                                          480
tnagnnatch ttgchcatat thegnathtt gacatgtgta atgatngaga teteatannt
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gcactgtgct teteatetat taacgetaaa ceatgacagt ttnettteat tgccaentne
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gctnttcttt nccnaaagca tcttctttcc caactcactc cagggccaaa tactctcanc
                                                                          720
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gnaagctanc ccaggcccaa ctttnntctt cttcaccggn nntaacttaa tcctggggga
                                                                          840
aggnaangen nggntettta geettgntee agaacettng gtageeegg neacaaatee naaaaacett tgeaggtttg ggggttggae eeegggneet ttttteeegg gtngggttta
                                                                          900
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cngg
                                                                        1024
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gacagcctat gttgaagaca ctgtgctttt ctcaagaagg acatccaaac agcaagtcta
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cttctttctc tttaacgatg tgctcattat caccaagaag aagagtgaag aaagttacaa
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cgtcaatgat tattccttaa gagatcagct attggtggaa tcttgtgaca atgaagagct
                                                                         360
taattettet eeagggaaga acageteeac aatgetetat teaagacaga getetgeeag
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teacetettt aetetgacag teettagtaa eeaegegaat gagaaagtgg agatgetaet
                                                                         480
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                                                                         840
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                                                                         900
cccagnettt ttaattaaag gaccggaaac entggeettt aactttggee agtggtnegg
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                                                                        1020
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                                                                        1024
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 gcctatgttg acctcgtccg gcactcaagg cgtgggcagc ggcctaacgt ctgctgcggg
                                                                         180
 aacacagtcg cgttgaatgc tattctcaag acagacaaaa cagtgggaag acactacgcc
                                                                         240
 aagctgctaa ctccctggcc attgccggac tctttcaccc ccatggactt tccqctqqca
                                                                         300
 ttttaaacaa catagtttct tttctctgtc tctttctctt tccctctct tttctctttc
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 tetetetete tetetetete tetetetete teteaatete ataatttete tetetegtge
                                                                         420
 cacgttccca cccaacgctc tctcgcccac ttctactggg gcccacttcc tctcctgctc
                                                                         480
 tetetgtete aaegtgattg aetttettgt getgeneagg aettettgee caegtgegee
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 ttcaanacgg taaagagctg caactgaacg tgtgagacat ggtgcanata aggctgagag
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 ggcggnggga gagatgccca tgaactcaag tacctgcccg ggcnggccgc tcgaaagggg
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 aatcatggtc aatanctggt ttcctgtggt naaattggtt ntccggctca nnaatttcaa
                                                                        780
 nannanatan naageneggn aancataaan ttgttaaage cenggggtte eetnaatnan
                                                                         840
 tttgncctan tnnaacntta aattngngnt ttnncnncan anngncngnt ttttcaattc
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cctcagcctc cccagtagtt gggactacag gcgtgtgcca ccacacccgg ctaatttttg
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tatttgcagt agagacgggg tttcatcatg ttggccaggc tggtctcgaa ctcctggcct
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caagtgacac gcctgcctca acctcccaaa gtgctgggat tacaggcgtg agccaccgca
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cctggcctct atgctcgaat ttctactctt agctaatctc tctaacacat atgcccttca
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acatcatgac aattotggaa tgtotgaagt ttgagataga agattgtota agaaaagotg
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gnaa					1024
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1220 Homo Dapie.	•		•		
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ctgctgcggg aacacagtcg c	gugaauge	catteteaag	acagacaaaa	cagtgggaag	300
acactacgcc aagctgctaa c	teeetggee	attgeeggae	tcttcaccc	ccatggactt	360
tccgctggca ttttaaacaa c	atagettet	tetetetete	tettetett	tetetete	420
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angggngant ttcaagcaca n					780.
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gctcananat tccanacaan c	taanactaa	ntconnttt	ccaanaaagc	cnachaana	900 960
ctggggttg ccnnaatgan t	cctatacat	ncconneta	attenenting	tagganag	
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aaatatatgt agtaaaggtg ga	actaccasa :	ccactacast :	acacacitica	cacacaacgg	240
gaaacaaaat aaccataatc co	cacaacaac 4	racacaacta	tttcttattt	ttcatctttc	300 360
Januaria daccataate te	-uvuataat (Jucacaacta	cecetigete	LICALULETO	300

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tttactgaat ttccaaagtt ttgtatgagt atgtantata tttgtaatgg aaaatacata
                                                                         540
cataagaatt tantaccaaa nacaccaaag attatttaag gaatttgaga caaaaatatt
                                                                         600
tanccaaatt cccacaatga caacaccaan tttaggtant ttccacatct ntttcaaatt
                                                                         660
taanggettt angeacacat attttaacae tggtaneeae aagengtgtt geneeggaan
                                                                         720
caanngntng agggaaacca ggtncaagga tggtnancan taagttgtta anggggttgg
                                                                        780
gaanannggn aattttttaa aacanattta cnttaanttt ccaagttttn ccnccgggga
                                                                         840
anntttttng gccaccaatg ggggnncccc nttatanccn ngtnanccgg ggacattttt
                                                                        900
tnnnggggaa atttnganaa atttagagtg ngaaangntt tttacccaan agtnccn
                                                                        957
       <210> 13
      <211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1020)
      <223> n = A, T, C \text{ or } G
      <400> 13
gtgngtctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                         60
ttcgagcggc cgcccgggca ggtacccagg attcaaaagt catcttcccc ggcgggaggc
                                                                        120
aagggacget tatggagaac etettaaaga tattgtgage attetaetea ttaettaqqq
                                                                        180
aaagagagcg ggtgttggtc caactctggc ttttgtgcca ggtaggagtt ggtcctgagg
                                                                        240
ccgcccatct gaccatactg gacctgtttt aaggtttttc tctaaaaaaa ttttaqattt
                                                                        300
gtcaatctgt gctcctgcag gggatgctat gtccaaatgt cccaggattt gttttttct
                                                                        360
gtettteetg agacatteee tgeecageta eccaaggaat cetteaaacg ageaaatetg
                                                                        420
accatatett etatggteag attaaaatet teeatggete eetattgett atgggacaaa
                                                                        480
atcaaaattc ctgagtctgg tctaaaaggt gtttgatgat cttgacctgc tgactttgcc
                                                                        540
agecttettg teagactete gtgteatget eegectagae tatgageetg etattteata
                                                                        600
ctatgtagct ttgtaaagtc ccagaaaatg ctgggctctg actcttttat aactttacat
                                                                        660
atactgttcc atctgcctgg aatgccttct acttgtctgt ccagcaaatt ctcaactcat
                                                                        720
ctcttaaggg cccagettca attgccgcct cctancataa gtcttccctt gatttcccan
                                                                        780
gcagnaatta nntcccgcgt accccgggga ntcccaatca gtttgtgctt tcaaaactga
                                                                        840
tggnnngact tccctgaaat ttgggttacc ncaaaacgaa atgggtgaat ccnnttccc
                                                                        900
cgggggggct gcaattgcac cctttttaa aggggaaccc tgnaantccc aatggnttaa
                                                                        960
atttgacncc cttaanggcn tnanttcnat tgagcaactt naaaaggggt tttttttttt
                                                                       1020
      <210> 14
      <211> 1013
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1013)
      \langle 223 \rangle n = A,T,C or G
gtgtcgatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                         60
gagcggccgc ccgggcaggt acctcattag taattgtttt gttgtttcat ttttttcnaa
                                                                        120
ngtctcccct ctacnagctc acctgagata acagaatgaa aatggaagga cagccagatt
                                                                        180
teteetttge tetengetea ttetetetga ancetaggtt acceattttg gggacceatt
                                                                       240
ataggcaata aacacagttc ccaaagcatt tggacagttt cttgttgtgt tttanaangg
                                                                        300
ttttcctttt tctnancctt ttcctgcaaa aggctcactc agtcccttgc ttgctcantg
                                                                        360
gactgggctc cccagggcct aggctgcctt cttttccatg tcccacccat gagccctcna
                                                                        420
ctagacaget cantaageet ggeeetteat tetgegetgt gttetteete ngtgaaaate
                                                                        480
caatacetet taceteetet geatgeaaag atteteaagg attgteagae tteaaaegta
                                                                        540
acagcagaac caccagaagg tccnataaat gcagtagtga ccttctcaag ctqtcaqqtc
                                                                       600
tttaaatagg atttgggatt taatgcnatg tatttttaaa ggaaagaaat aagagttgcn
                                                                       660
```

```
agtttaaaaa tgcatgtctt ttagccaatt cagaatcctg cccccaaact tttttaaaaa
                                                                            720
gtcaagacag ataaagcttt ggggganacg gaaaaaaann gnnnaaaaaa anaaagtact tcgggcggna acnacgctaa gggnnaattc agcananggg gggccgttac aagngggttc
                                                                            780
                                                                            840
nanncccggt acnaancett gggggtttaa caagggenaa anenggttne cggggntnaa
                                                                            900
aattgttacc cgcnaaaaat tccanaaaaa natncgaacc cggaaancca taaanttntn
                                                                            960
aanceenggn ggeenaaggg agngnnnaac ceenaataaa tqqnttqqnc ent
                                                                           1013
       <210> 15
       <211> 951
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) ... (951)
       <223> n = A, T, C \text{ or } G
       <400> 15
accctagggc aaatactgag cagggtaaaa ttcccagaat acccactaga agcgtggaat
                                                                             60
atatcaatat cctaggaaga agattcagca caccaaattt cccattactg ataacagctc
                                                                            120
tgaaggcata ataagaaagt gagtgatcag aagagcagag aaatgacttg ttccagtcac
                                                                           180
tgccatcttg tttacccttt cagtggttcc cttacccttt tccccactgg gcatacagct
                                                                           240
catctetete tgagteettt tetgetttee teetttgete taaaegtteg agttteaaat
                                                                           300
tectettaeg accagaetta tetegaaata eggttteage atattgaaat teagetgeaa
                                                                           360
aggaaaatta tactcaaata tcaggatcaa aatcagaaat aacattctaa gagatcaaat
                                                                           420
caaccgcttg ggattctaat gctagataag aacttctgca gccagaccaa agtagttcct
                                                                           480
accaacatet tggtgcatat tggcactggg cccaagaaat ggcattttcc ttttttttt
                                                                           540
ttttgagatg gagteteact etgttgeeca ggttggagtg cantgggege gattttgget
                                                                           600
cactgcaacc tccacctccc aaggttcaag cgattctcct gtctcaagcc tcctgagtna
                                                                           660
gctggggaat acagggcata cnacancatg cctggctagt tttttttttg gaattttqqn
                                                                           720
tagagacagg ggtttcatca nggttngccc aggcctggtn cttggaactn anagaccctc
                                                                           780
aggntggatt caacccaact tccgggctac caaaaggtng ncgngggatt acangcattt
                                                                           840
anncaacngn gccctngggc naaaatggna anttttcang aagggaaagc agcnntgggg atcccnggnn naantttcac caaggcctta aaccagggnc gtaaatttgt t
                                                                           900
                                                                           951
      <210> 16
      <211> 1008
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1008)
      <223> n = A, T, C \text{ or } G
      <400> 16
gtgcgatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt cgccctttcg
                                                                            60
agcggccgcc cgggcaggta cattacttgg tgttaacatt gttggcagtg gtagcccctt
                                                                           120
ttcagaaagc aacttgctgt aagtcagggt gtccgttcca accttcagct agtgaaaagg
                                                                           180
tagtaacaaa tggtaaacaa gagaatgatt gtttaaacct atctgtggac acttaatgca
                                                                           240
actgtttaaa aatgataatc acgagttatg tagcaacgtg gaaatatatt tacagaacat
                                                                           300
taagtggaga aagcaggaca cgaaagtata tttatactac agttataact caacagttca
                                                                           360
tttatatgct gttcatttaa cagttcattt aaacagttca ttataactgt ttaaaaatat
                                                                           420
atatgettat agteaaaage tgttgtggtg ttgttgttgt aggettatag ttgageatta
                                                                           480
ttttcttaaa tttcttgaat gttctttatg gtagtgttac taaaaagttt atgatcacat
                                                                           540
tttcattgtg aacataattt gaactcatta tcacacactt ggaaaataca gaaaagtgga
                                                                           600
ggaaaaaaaa tcatatcccc ancatccaaa gacatatact ctcctcttat cctqttcaat
                                                                           660
cctggtttcc ggtgcacaag gtttatgatt ataactgtgt caaaatgtat aatcaaaata
                                                                           720
gctgttacat taccttggtg gnantaaggg taaatacctt caccttaaat ttttcaaaan
                                                                           780
gttcccaana ataaaggtcc ggataacagt ggtataagtg tgtcccaatt gggggtgcan
                                                                           840
aatacattcc cangngggaa aatttnnaaa tnaagttaaa ttattttaaa aaatttccaa
                                                                           900
aattcccaan anctaanaac taangggnaa aaacctngat cgggntnccc caaacnnqtt
                                                                           960
```

```
taantgnnac nccttgggaa aanaagnttt aaaaanggtg gcaaaaag
      <210> 17
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 17
gtgnetetag atgeatgete gageggeege eagtgtgatg gatatetgea gaattegeee
                                                                        60
tttnnanagg negeneggge angnantett ceencetntg ceatnannea eggnnanaan
                                                                        120
engeagtgge actaanintg agacaatett neaaaceage ticatgiege incactinie
                                                                        180
nnngthcaag angaggcca ggangggaaa catcacanct gcgctaagnc cngntccggg
                                                                        240
nngtcagcat nngntctgtt ncaannccen cgntcggtcc cctcatccta ctctqcctcc
                                                                        300
natgaetttg enecteagae ntentggaae naaggnttee nggggggeae accqcqtccq
                                                                       360
gccgnnnntg tctcggggcc acttggcgtg tgtgataaat caatcaagct gttnanntcg
                                                                        420
nacgagtete nggtngcetg cananntaag ceteateate agageettte etcaaaactg
                                                                        480
ganteceana tgteateagg ttntggttnt ttteageean naggaageee tengeattga
                                                                       540
atccnagaac ttgggcatgg tnnaagatct acaagntnga atacgctgcc cgcnanaanc
                                                                       600
nttcaaccet aacaggaagg tnggattcaa ggaaggtgta anggnncatt annccacneq
                                                                       660
ggggnaccaa gggagntana antanncatn nntttgggtt cgcccnccga aqqqnnttaa
                                                                       720
cccccggaat tnnntttnng ntnaaggggg gnnnngggna aatcccngtt cnncatttgg
                                                                       780
gaaagggann cettneettn enntnggeet ntaaaagnnt tancaanace egnnatnntg
                                                                       840
ttnanggccc cgnttttcaa nggggttaan nnnttngggn aacccccnnc cccaaagnng
                                                                       900
gnnnaanggg ggnaattece aanaaaacng gggggnneet tnnnnnangg gnttengnnn
                                                                       960
ccccnaaagg nnncntgggg ggnnannann gnncnaaaaa gggttcccnn nnnnaaattt
                                                                      1020
tttc
                                                                      1024
      <210> 18
      <211> 981
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(981)
      <223> n = A,T,C or G
      <400> 18
acgcgggaca gagagaaggt taagagcaac aagatgggag gcagctgcat ggaacctgtc
                                                                        60
ccactgagga agtaaaacag agttttactc ttgttgccca ggctggagcg caatggtgcg
                                                                       120
atotoggoto acogoaatot otgootootg agttoaagog aggagoaaco otacotgatg
                                                                       180
gactggactt ctgcctggat tggagtttga tcatgcctcc atatgggtgt ttaccaggcg
                                                                       240
tatgcattga acctgagttt gtctcttcaa tacaaggaaa atctctgccg cttagtgatt
                                                                       300
ttccaagaaa catgagcttc tgcctttcaa tgaggaagat actcagaagt catgttcgag
                                                                       360
cacteeggaa aatgteettg gagttteaac atttetttgg tetteeacat tteattttgt
                                                                       420
cctgattaaa gaggaagcca agttgctgtt tgtgtggcca tgtgagcagg canggagatg
                                                                       480
gtggctgcct agaagccaag agaagtggcc tcaagatgaa atctaccttg ctggtactgc
                                                                       540
ccggggcggc cgcccgggca aggtacnttt ttttttttt gtttttttt ggcaaaaagg
                                                                       600
ctgtaaagct tttttgggga gaaattttaa tgggncaaan tttccaacac aggnagcanc
                                                                       660
cctgaaacca attttaagcg ggtccttccc ttttaaggct gtnnaattgc cccttcaanc
                                                                       720
ttcctcaagg ngtttttcac cctcccnccg ggattttggn aaaggcccaa aantccntgg
                                                                       780
gnnaanaagg gacaatctcc cgggnttaaa aaccaattnt ncggggngna accnggttcc
                                                                       840
ctgggctann cncctttaan ggntnccggg gcccttttgn gggggnaatt ttcaaacggn
                                                                       900
nectneattt tetnaggggg naanceneet tngggteann gggnenannn cecaagnett
                                                                       960
caaanccnaa ntcttttqqq q
                                                                       981
```

```
<211> 980
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(980)
       <223> n = A, T, C \text{ or } G
       <400> 19
actititiet titititit tititicogie tecceaaage titatetgie tigaetitit
                                                                             60
aaaaaagttt gggggcagat tctgaattgg ctaaaagaca tgcattttta aaactagcaa
                                                                            120
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                            180
gacagettga gaaggteact actgeattta taggaeette tggtggttet getgttaegt
                                                                            240
ttgaagtctg acaatccttg agaatctttg catgcagagg aggtaagagg tattggattt tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
                                                                            300
                                                                            360
ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc cagtccactg
                                                                            420
agcaagcaag ggactgagtg aagccttttg caggaaaagg ctaagaaaaa ggaaaaccat
                                                                            480
tctaaaacac aacaagaaac tgtccaaatg ctttgggaac tgtgtttaat gcctataatq
                                                                            540
ggtccccaaa atggggtaac ctagacttca gagagaatga gcanaganca nagggagaaa
                                                                            600
tetggetgte ettecaattt teaateegtn ateccaggtg aagetgggta ngagggggag
                                                                            660
ancattngna naaaaatnga aacaacanaa nccagtttac taaatnaagg gaacctgccc
                                                                            720
cngggcggc cnccaanggg ccaaatttca ancaacanng ggcgggcccg ttaccaantg
                                                                            780
gnatteegaa geeneggta accaangeet nggngtnaat ceagngggne aaancengtt
                                                                            840
tnccnggngt gnaaattggt tancccgccc naanaattcc acancaacga atcngaagnc
                                                                            900
cgggcnagca tnnangnnta aancccgngg ggggcncaaa agggaatgnn nccanacccn
                                                                            960
attaaatncg gttgcccctg
                                                                            980
      <210> 20
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 20
cttggtaccg ngctcggatc cctagtaacg gccgccagtg tgctggaatt cgcccttcca
                                                                            60
tectaatacg acteactata gggetegage ggeegeeggg caggtattea geggeegett
                                                                           120
tttttttttt tttttttt tttttttt attgntgaca ctattacaga tagaatgacc
                                                                           180
acaaccatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
                                                                           240
gatgttaacc acactntttg gatggtgaaa acatgggtga gtttctcttc tacatttctg
                                                                           300
taacttcaaa gtttctataa tgaacacatt tcatatataa tggaaatata tgtagtaaag
                                                                           360
gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
                                                                           420
atcccacaac aaccacacaa ctatttcttg gttttcatct ttcttcccat ctttgacatt
                                                                           480
tatgcatact tatcactaac accctaataa tcacagacta gtgcacagat caagatgtta
                                                                           540
acagttaatt gttgttgggt gttgggaata tgtgtgaatt ttctttactg aatttccaaa gttttgtatg agtatgtatt atatttgtaa tggaaaatac atacataaaa tttattacca
                                                                           600
                                                                           660
aaacaccaaa gattatttaa ggaatttgag acaaaatatt taaccaaatt cccacaatga
                                                                           720
caacactatt ttaggtattt tccacatctt ttcatttaag actttatgcn cncatattta
                                                                           780
acactggtat ccacaagcgt gtgccctgaa accaggatan nggggaaacn ngatcaagat
                                                                           840
gttagccagt agtttggtag gnggttggga aatataggga attttttnaa aaaaatttac
                                                                           900
tttatttncn aaattttccc cttgggnaag ggattatggc ncnccaangg gngcccctt
                                                                           960
aaanacnctg gttttcngga ccttttttt nggggaccat ttggaaaaaa ttaangggga
                                                                          1020
aggt
                                                                          1024
      <210> 21
      <211> 1024
```

<212> DNA

<213> Homo Sapien

```
<220>
       <221> misc feature
       <222> (1) ... (1024)
       \langle 223 \rangle n = A,T,C or G
       <400> 21
nagnngcang cncgagcgcg cgccagtgtg atggatatct gcngaattcg cccttcntan
                                                                             60
engnngneae tnaatgeang ngennaacea tgataaceeg agttatgetn ageanaggaa
                                                                            120
ctatatgtac agaaacatta agtgnngaaa gccnnacncn anggnanntg aatactacng
                                                                            180
tnataactna ncagaccatt nanatgctgc acatttaaca nnncntncan acagnanatt
                                                                            240
ataanngnnt ananntatat atgetnatng accaaagetg tngaggggtn geegttgaag
                                                                            300
gennnnngnt nageattane atnttaenne acttgeetgn cetntatgge agggttaeta
                                                                            360
tctttgttac tgatcacqac atcantgcga acntaanacn aacncnntat nacacactng
                                                                            420
nnanageceg aategngnng gaacagtate ntnteneene cancennaga catntnennn
                                                                            480
cctcttatcn tgancattcn agnttctgtg cacaggtnta tgatnntanc ngtgncaaan
                                                                            540
tgnntcttna aantanttgc cacatnacct tngaggantt atggannaan actctcactt
                                                                            600
taaancenne aanegaceee nanaanaetg tnetgntaac agtgeanaat gtgtgattte
                                                                            660
atagttntgc acacacatnc ccacnggaan cacaggcgtg tgcactgaac attntagagg
                                                                            720
ntacctatct gccgacacct aacactacng gtnacggcaa gatcggaacc tntaannggg
                                                                            780
ttaacncaaa cnctagggat accongggaa atatgtggcc caccgtttaa acccccgaag
                                                                            840
tgcccngtac ccnggacatt gttttcgtgn cggtanttgg gttaaanntg ggntnaaaac
                                                                            900
cctaattccc cctgggggtt tgccactaaa tttgaaggac cttttggccc tgccaaaatc
                                                                            960
annaaccetg geneanaact ttgggggane nggnnaggna gggtnnecet ttttteega
                                                                           1020
aggc
                                                                           1024
      <210> 22
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C \text{ or } G
      <400> 22
gtgcgatgca tgcncgagcg gccgccagtg tgatggatat ctgcagaatt cqccctttcq
                                                                             60
ageggeegee egggeaggta etttttttt tttttttt tttttttag attecacata
                                                                            120
tgagtaaaat catgtggtat ttgacttgcc ttttaaaaca cagtgaagaa tctgtcttac
                                                                            180
tttattcagg gtaggagaag ctacctgggc tccccataaa tgaggtgctc catcccatca
                                                                            240
tacagececa teatatteag tgetteecag atgaceteet eaggggtgea gtagecetet
                                                                            300
atgaagatta tgcttaggat aagtatgaga atgccagtct tgggcatgct ctggacatca
                                                                            360
ctcagcatcc catcataggt gaggcccagg gaggtgacaa ggacaaagga gtggccagtg
                                                                            420
ggatccactt cctttacatc aatgccaaag accagcagca tgcactcgga ggcttcacta aacaacaaag ggaagtggtc ttcataattt tttatgacac tctccaagta tttctgcctt tgtgatcggc tccttcattt gatacttgaa gagcagaaac tgcaccaaat cagtcacctt
                                                                            480
                                                                            540
                                                                            600
ttcatctatc tcacttctgg gtaaagactc actgtctggc aaggacctgq taqqqtqctt
                                                                            660
gggactcccc tccttttggc tgcnggagnc ctcancagat tgatctaatg gaaqqgaaac
                                                                            720
aacgaccena ggggaaggag cagggetate tngagcaaen etggggaagg atttggggte
                                                                            780
nccatcatca ngcagnaaac tccctcccgg gggtnccttg ggnanttaaa gggatnccca
                                                                            840
ggaaggagga nggagggaan agggaggang agggaaaaac naggntngga aaaagggacn
                                                                            900
cggngggaaa ttggggntta tacaccgccn ncnnnaannn ggggngagnc ngnngnccng
                                                                            960
tegnggnenn gntteenntt gggngaagnn ggnttetenn angggnegnn nnnnnnnne
                                                                          1020
cnnt
                                                                          1024
      <210> 23
      <211> 948
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc_feature
      <222> (1) ... (948)
      \langle 223 \rangle n = A,T,C or G
      <400> 23
acttttttct tttttttt tttttccgtc tccccaaagc tttatctgtc ttgacttttt
                                                                         60
aaaaaagttt gggggcagat tctgaattgg ctaaaagaca tgcattttta aaactagcaa
                                                                        120
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                        180
gacagettga gaaggteact actgeattta taggacette tggtggttet getgttaegt
                                                                        240
ttgaagtctg acaatccttg agaatctttg catgcagagg aggtaagagg tattggattt
                                                                        300
tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
                                                                        360
ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc cagtccactg
                                                                        420
agcaagcaag ggactgagtg agccttttgc aggaaaaggc taagaaaaag gaaaaccatt
                                                                        480
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                                                                        960
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                                                                       1024
actt
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 acngccatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
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 gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
                                                                         360
 atcccacaac aaccacacaa ctatttcttg gttntcatnt ttcttcccat ctttgacatt
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 tatgcatact tatcactaac accctaataa tccagactag tgcacagatc aagatgttaa
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 cagttaattg engntgggtg ttgggaatgn gegtgaattt tetttaetga atttecaaag
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 ttttgtatga gnntgtatna natttgtaan ggaaaataca tacatnaaat ttattaccaa
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 aacaccaaag attatttaag gaatttgaga cnaaatattt aacccaaatt ccacaatgcc
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300

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atgatgacet ttcaaggaaa ccgaancaaa ntnacentan teccacaana accacannac tattnentgg tnntnatgtt tetteceate tttgacattg atgentaett aggaetaneg ceetaataat eccagaettn ggeacagate aaganggtaa enggtgattg gaggtgggtn geeggaantt ggggtgantg ttntttatgg anttnecann ttttggtang ngattgnnna aaattngaan nggaaacnet taettnaant tgnttaeenn aaeneenagg atnttttaag gattngggge enaaatttt acceaaatte enneaangee anenetgtnt aagteattt caaanttttt tenettaaag acettaagge eeectaaggt aaeetgggaa tanaaggggg ggeaentggn accaggntee nagggaaeng nnecaagant ttteeeentt ntttgtttgg	360 420 480 540 600 660 720 780
gggttgggaa atnnnngnaa attttttaaa ggtaatncac ttaatttgcc aaaggaattc ccttnggggg nggnnttatt gcncacccat gggagacccc cntaaggccc cnggaataag ggcctttttt tttngggacc atttgggaaa aatttaaang ggaaggcnnt ttgnaccctt aatttcccca aggnaaangg aaccncccnt tttgganatt gcattttngg ccccgttttt aagg	840 900 960 1020 1024
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cactggttta aaaatggnaa tcacgagttt tgtancaacc ggggnaatat atttaccgga
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acctttantg ggnnaaagcc ggncnccnaa ggntttttat tncttcnggt tttaacctta
                                                                        900
acaggtncaa tttataatgc cgggccattt aacaggtcat ttttaacccg gtcnnttttt
                                                                        960
accongotta aaaaanntnt atgootttag gncaaaanct ttttnngggg gnttnttgtt
                                                                       1020
nang
                                                                       1024
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      <211> 1024
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ctcctcctcc tcaagtcttt acccgaaact acttcccaag agaggttgct cttcccaaag
                                                                        180
aatcacctgc cctgggacca tatggggcta ggctgagggt caggagccaa gagcctggtc
                                                                        240
ccaactetgt etgtggetta etgtgagace etaggeaagt tgettaeeet etetgggget
                                                                        300
caaattette etettigaaa taggaataat aaetteatea etagaattet teacetggtt
                                                                        360
gttgtgaagt taatcagaat aaatgtggag ataatacatg aatgagcgta cagaatatta
                                                                        420
tttggctgtt ctgtggcatc gatataggtc atgatagtga caatagtgtc tgtcattgta
                                                                        480
ttccacacca cttcttccct cagctaaagc aggaaaagaa aggaggtaag tctctctgtg
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                                                                        600
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                                                                        660
aaaccatect ettaaccaat tittetitte titteagtit tieeccagti atacticeae
                                                                        720
atgatacacc agagaaggaa gatcctttct catactgaag aacacaagaa atttgaatag
                                                                        780
ttcctgcttt ctgnaccttc caccaaaaca aacttttcaa tgatccaaaa aactggcttt
                                                                        840
gnactgggga gtcacggaat gggccggctt ccangganca tggcggnngg gcctttgcgg
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ngtcgggcct gtggtggcgg cggaaaggna accgggggca tggnttnccg agcctggtct
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tgccccccng ggncatggtg tggaggcaaa gaancctgaa gtccccacng gcccccggga
                                                                       1020
agna
                                                                       1024
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      \langle 223 \rangle n = A,T,C or G
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                                                                         60
tectaataeg acteactata gggetegage ggeegeeegg geaggtgaat teageggeeg
                                                                        120
ctttttttt tttttttt tttttttt acagggeggc tttttgttt atttctgctt
                                                                        180
ttttcccttt ttcttaaaaa aattaaataa agttctcatt atttccccaa tatacatcaa
                                                                        240
atgagttttc atgcaaagca gcagtcacag aggcagaact gtccccagct cgtgcctntc
                                                                        300
ggettgaaga accacettnt eceggeeeeg ggttetetgg ngtteteaet gaggatggae
                                                                        360
gacgcccact gtctntccca gctggaactg gctatgacga aacttggctg gcgtagggag
                                                                        420
aggagteete ecetnteece aggatggggt eteaggggae ageaagetet ggggeetgat
                                                                        480
ccccatcact tgnccttcca tctgagactc ccagtgtgac agcttggaca ggtccctctt
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cccaggaatg cgaggctcct cctctcagct ctcaatggac atggcattaa tgagctgctc
                                                                        600
caccttataa gccagccgnt gccgccgtgc ctgctcatcc tgctctaggg ccccgatgag
                                                                        660
ctcctcacta tacttqctga cataqqaqta gatctcattg ggggcactca acatqttqaa
                                                                        720
                                                                       780
actecaeggn gtgeaggegg gaetgetegg egagggtagg catteatgge etggteaetg
gatggctggg aaccttggcc aaggctgcgg nagnatcttt tccccccagc tnttggnaac
                                                                        840
ttggggaagg cccttgggca taaaaagcaa cttggttgga anggggaggn ctttgccaa
                                                                        900
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cccgggggct ttggacgttg gaacaagagt nccttgaagg gtttgggncc cccncaaaaa 960 ngcangente egggaaagee geeettgggg gtgneaaaae eeenaactgg ggggttnttn 1020 aanc 1024 <210> 38 <211> 1024 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(1024) <223> n = A,T,C or G<400> 38 taccgccctc gcatccctag taacggccgc cagtgtgctg gaattcgccc ttccatccta 60 atacgactca ctatagggct cggcggccgc ccgggcaggt gccgcttttt ttttttttt 120 ttttttttt tttttgcttc acaactgttt attttaagct gaaacttcaa tattcattga 180 ttacctataa taatagttac tcataaatgt agttaataat taaatataaa aattattatt 240 tttacattta tataaatctc tgaaaaatac caagttttga gagatagagc aagaaattgc 300 ttanaaaatt gcaggaagcc tgaanaatct cagcatcagt caaagcaggt ncaacaaaaa 360 acaattttag acattcattt tttgctttaa gagtgcttaa aataaatgat cacagaatga 420 ataactgatg tatggcaaaa atgagtttaa aactatgtaa gctccaaggc cccaatgtgt 480 ataagaattc tttggaagga ttttgaagga ctgtaaatgt tgcaaataaa aqtaaaaact 540 agtagttagg caatgngttt taaactatag ngtcacctac tgntcttctg gtgcctaact 600 gnattettea acatettett tteeettttg attagaaate etggtetaee teaaaggttt 660 tgcattgntt tctagggaca tcagcaaact ggtagaccat atgagaaaca gaaataaaca 720 gtaatattat ctttagaaat taagcattat gtacncagtg agaaatggat tgacttgata 780 gaccttaaac ccctttcttc ctttcacacc ctttntagna ccacctaang gtatccggat 840 tggggatggg gcccnctnt ggtaatcccc ctnnagtcag gacaggggcc cctaagggcc 900 caattttntt tegaattaga gaaatneece attttttggg gggttggeaa gtnttaneec anggettgea aaggettntt tttgaagana eneceaaace eggggnettn tttttengga 960 1020 1024 <210> 39 <211> 1024 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(1024) <223> n = A, T, C or G<400> 39 tegecegage agnangenen ageggnenne agtgtgatgg ttatngtgnn gnnttegene 60 tnccatncta atnctactca ctataggqnn cntqngncnc nnqqcnaqtn ntnacnnntn 120 annggtgtaa ctgatatcat ntenennana ccatggttac atnnanntag gtctennang 180 nataccange tntgagagnt ngacenggaa ntegnttnga aannttgnge gangeengat 240 caatateene atengneaca geggnteege aagetgaeaa tnetgnanat tnattnttgg 300 tttannganc nnttacangn atggnncccn gagatgcatg nnggagtatg gcaaagatgn 360 ntgtaaaact atgtaagctc naaggcccca atgtgnataa cagttcntgg nanggantnt 420 ganggantgt aagngntnaa nntnaangnn anannnaaga ggtangncat gagcccnaaa 480 ctgtagnnnt anctacagng cttanggcgc ctacctggga caggcnacgn cttcattaac 540 cttttgatta gaannacggg ggtaacncac nggttnngca tggtccagta ggngcattgn 600 congonggge aaccatatge tgngcneaaa taaacggtge ttttanetea nnagattaaa 660 gctttttggc cacaggggna aaagnatggc ttganaggcc ttaaaccccc gtactcngtn 720 cacccetttn gagaacenee taacgggate tggaaatgng atggeeecet nttgggaaac 780 nccctanaag anacctengg ngacccettg nggcccattt tgangtttag nacngcaatt 840 tncccatttt tgnggttttt gccaacccta agncatnggc tggcaatgga ntgnnttttc 900 caatagaanc aaaccccggn tnttttttgg ggggnatcag ggttaagggn nttggcaaaa 960 nnaaannggc ncnnggnaaa aatttttccc nggtntatcn aaanncccca aagcttttng 1020

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caan
                                                                         1024
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      <222> (1) ... (1024)
      <223> n = A,T,C \text{ or } G
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gcctatgatc congcacttg gngaggccga ggatctcctc tctgggggat cacttgaggg
                                                                          120
caggagttaa gagaccatcc tggccaccat gatgaaaccc tgtcnctact nnacatacag
                                                                          180
gaagnagetg gnegngntgg catactetta caateecage taettggnag gntgangeag ganaateact ngnacetang aageagaggn tgeatntgnn ecaananeae aceaetatae
                                                                          240
                                                                          300
tntagcctgn acgacagagg tgntgataan agcnggaccc ctgactatat ncaggntttt
                                                                          360
ctgacntnna nnancncatc taaatnctac gccgtntgag gtcgcntagg ttangtagnn
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natnetnatt tatgaccaat atgntqtnan acggentnnt gntnaaaant tntacagnan
                                                                          480
qqcnqnctac nttncttata atqnqqaaaa cqqtqnctqa natncangtq nnnnnqtccn
                                                                          540
nttnntggna agaggnttng aaanncanca gtgcaccttn tgaactctac nagnagcttn
                                                                          600
tgaagctaac naagcnttaa natnagatgg cntgntagga ctgtacnngc anggaaagat
                                                                          660
tcacaaaact ggacattett nacegagata ngntettget ttacegggga ggacnnntee
                                                                          720
aaggntgtnt naagagggac agtcagctta gtnntgctng ggtagagaaa accangactt
                                                                          780
natntgtgag ettgatngge agaacetggn nancettgga agagentnga ttgneengat
                                                                          840
ccctgaaagg gcnnncttna ccctatcggg gaccttnnna acctcttang tggcacgcaa
                                                                          900
ggcacnaacc nggcncnttt caagaatcnc nggaatcnag gcccctttct tgggntnanc
                                                                          960
engnnnnee egttnagnee enegggnaaa anntettggg nnttteeaat eeengnggnn
                                                                         1020
nttt
                                                                         1024
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      <221> misc_feature
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gtgctggaat tcgcccttag cggccgcccg ggcaggtact tcccaccact ggaaatgtta
                                                                          120
gcataaaaga acttggagag gaaaaaagta ttaacaaaac tgcagtctgc actctttaaa
                                                                          180
cctgtttaag gctcttcatc ctggttagca aaaggtgtga atgtaatgtg atggaattta
                                                                          240
aaagttttat gagaccaggc acagtggctc acgactgtaa ttccagcagt ttaggaagcc
                                                                          300
gaagtgtgca gatcacctga ggtccggaga ccagcctggc caacatggtg aaaccctgtc
                                                                          360
tctactagaa atacaaaaat tagccaggtg tggtggcggg cgcctgtaat cccaactact
                                                                          420
caggaggetg aggetagaga atcaettgaa eccageagge ggaggttgeg gtgagtegag
                                                                          480
atcacgccat tgcactccag cctgtgcgac aagagcgaaa ctctgtctca aaaagatttt
                                                                          540
ataagaaagc agagcttttc cttgaagctc ttttgaagtg gtagcttaat tagtattttg
                                                                          600
                                                                          660
ntgaaaatac tttaaaqatg cctagtgaaa agcctactaa agtgctgtga aaaatggggt
ttanaacatt ttattttcan gctttatggc ctattttcca ttgnggcaag tgcaaaacta
                                                                          720
ccctggccca aangaagggc agagaacata attacctctt anggcacatt tcattctttq
                                                                          780
cagetttget taatecagtn getaagttet ttacetnaac cetgnaggna ttgaaentta
                                                                          840
ttnccatttn ngnaaaaggg tcaccctntt nnnacaatnt tncannanct ttttnggaag
                                                                          900
ttancenttg geettaaaan ttnaaaante entntggnnt teeetttatn eecennangg
                                                                          960
gnnnantang gnntggattt ttaanggncc ttggccngaa cccc
                                                                         1004
```

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<211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A, T, C or G
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                                                                       60
gatatetgea gaattegeee ttagegtggt egeggeegag gtacetttga taatteetaq
                                                                      120
acctctattt tcattctgtg tattaatgtg aataacagat ggatatttta atatttaagg
                                                                      180
cagatggtaa actttcctat aggtcttgtg agacttcgtc ttataggctg aacaccattc
                                                                      240
acaaaatgta ataatgcttc attccttcag gttgaggtaa agaacttgag caactggatt agcaaagctg caaagaatga aatgtggcct aagatgtaat tatgttctct gcccttcctt
                                                                      300
                                                                      360
tgggccaggg tagttttgca cttgacacaa tggaaaatag gccataaagc ctgaaaataa aatgttctaa accccaatct cacagcactt tagtaggctt ttcactaggc atctttaaag
                                                                      420
                                                                      480
tattttcaac aaaatactaa ttaagctacc acttcaaaag agcttcaagg aaaagctctq
                                                                      540
ctttcttata aaatcttttt gagacagagt ttcgctcttg tcgcacaggc tggagtgcaa
                                                                      600
tggcgtgatc tcgactcacc gcaacctccg cctgctgggt tcaagtgatt ctctagcctc
                                                                      660
agcettetgg agtaagttng gaatacagge geecegneaa cacacetgge taaattttgn
                                                                      720
atttctagta naanaccagg ttttnancat gttggncaag gctggtcttc cggaaccttn
                                                                      780
angtgatctg gacacctttg gntttcctaa actgggtgga aattancagc gggaaccnct
                                                                      840
ggggcctggc tcattaaacc tttaaaatnc cttnccattc anttcncacc ttttqqtaac
                                                                      900
ccegnatgaa aaccettnaa ccgggtttta agnangenna nnngggnnat ttgtaaaact
                                                                      960
ttttccccnt tccaagtcnt ttaagccaan nntttnccng gnnnngggan ccctnccggc
                                                                     1020
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      <211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
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      <223> n = A, T, C \text{ or } G
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                                                                      60
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                                                                      120
gcctagtgta ataattaaca tctagtatgt gtttgatgga tagccaattt ttgcttcatt
                                                                      180
240
                                                                      300
360
ttttttttt ngnnnttttn ncntttttn aannaaaaan cggcccnann accnnccnnc
                                                                      420
480
cttttttccn naagggtttt ggggttttng gggnaaantt tnggnncnan nnnggcccna
                                                                      540
aaaaanttnn gnccnanaan cgcnntttcc nannnnttnn cnttggggcc caaaaanttn
                                                                      600
cgnaaccccn tgggcnnaaa gggcnttgnt ttttttgggg nncccnaaac cangggggg
                                                                      660
cnnaaaaaat gnccettgaa ntttttaaaa aaccetntgg naaaaneece nnqggtteec
                                                                      720
commnnece ttanttttnn acanaanggn nnaaangggg necennnaaa nacenttngg
                                                                      780
ggccnttttt tnacaaattt ggggntttnn aaaggggttt tnnggggggc cctntatncc
                                                                      840
Conaaaaang aaagggnnoc coccecennn nonnnnnoc cnaanceece ggnnnttttn
                                                                      900
ccngggggg cccnnnaaaa gggggnaant ttnggnaaan nccnnnnncn ggggggnccn
                                                                     960
ttnaaanntc nntttnanng gggcccnnnn nnccccnnnn annggggggn nnaaaaaccn
                                                                    1020
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     <212> DNA
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                                                                       120
ctacggaggt ggcagccatc tecttetegg catcatggee geceteagae ecettgtgaa
                                                                       180
gcccaagatc gtcaaaaaga gaaccaagaa gttcatccgg caccagtcag accgatatgt
                                                                       240
caaaattaag cgtaactggc ggaaacccag aggcattgac aacagggttc gtagaagatt
                                                                       300
caagggccag atcttgatgc ccaacattgg ttatggaagc aacaaaaaaa acaaagcaca
                                                                       360
tgctgcccag tggcttccgg aagttcctgg tccacaacgt caaggagctg gaagtgctgc
                                                                       420
tgatgtgcaa caaatettae tgtgeegaga tegeteacaa tgttteetee aagaacegea
                                                                       480
aagccategt ggaaagaget geccaactgg ceateagagt caccaacece aatgecaqqe
                                                                       540
tgcgcagtga agaaaatgag taggcagctc atgtgcacgt tttctgttta aataaatgta
                                                                       600
660
nnnnnnnnn nnnnnnnnn nnnnnannna aancconnnn aaaanannnn nnnnaaaaag
                                                                       720
gcttntttta angggcaaat tgggaaacct ttttnattca aaaatggctt ttnccangga
                                                                       780
ctggggacca nnttncccng gggnccaaaa ttgggntttc ctttaanccc nttncnnaan
                                                                       840
gggaattttt ncccttgggc cttgaaaaac naagcnnnna aaaagnccct tgggnnggaa
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accectting ggggaattic enencentig ggggggennt ninnnnnggg accenantig
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gncccaantt ttggggaaaa nnngggnnaa aaagggnnnc cctgggggaa aatgttnccc
                                                                      1020
                                                                      1024
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      <211> 1024
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      <222> (1) ... (1024)
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gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacggcgca ttttgtgcac
                                                                      120
acaaaatgtg cgcacacaca cacacacaca cacacagaca ctcctgcaca tggcctgtta
                                                                      180
aagaactaca agggaggtgg gacgcgggaa agtgtatggt gtgggtttgc atcgtctcat
                                                                      240
cattgattct tctcatattt ttctctgatt agagaaacta aagagaattt tgtgagaaag
                                                                      300
gcttgaaagt taatgagtta cttctaccaa agtgattaca agcagaaatc ctcagatgct
                                                                      360
gtagagatgc tgacccacac atccttagct caaggaagcc cctcgcatta gtcaccttca
                                                                      420
gccatcagca gcctccacca ttaaccccag tgtgctgtat aaaaaatact ttctacatgt
                                                                      480
gcccaaattt gaaaagttag gaagcactga tttcaaagca aatcattcac atttgaactg
                                                                      540
tetteagtgt accteggeeg egaceaeget aagggegaat tetgeagata tecateaeae
                                                                      600
tggcggccgc tcgagcatgc atctagaggg cccaattcgc cctatagtga gtcgtattac
                                                                      660
aattcacttg ccgtcggttt tacaacgtcg tgactgggaa aacccctgcg ttacccaact
                                                                      720
taatcgnent ggageacatt eccentttgg cenaetggeg taattaacca aaaaggneeg
                                                                      780
gaccgaatcg gccntttcca acaagttggg ccaacctgaa tnggcnaaan ggccccccc
                                                                      840
tgtaaccggn gccattaaac ccccgncggg nnnntngggg tacccccaac ggggaccggt
                                                                      900
taacttggcc anggccttaa ggcccggtcc ttttggtttn ttncctttcn tttttngccc
                                                                      960
ntttnccngg nttttcccgn aaagntntaa aaaggggggg tccccnttta ggggtcccaa
                                                                     1020
taaa
                                                                     1024
     <210> 46
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     <213> Homo Sapien
     <220>
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<220>

<221> misc_feature <222> (1)...(1017) <223> n = A,T,C or G

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                                                                            60
                                                                            120
atggatatet geagaatteg eeettagegt ggtegeggee gaggtacaet gaagacagtt
caaatgtgaa tgatttgctt tgaaatcagt gcttcctaac ttttcaaatt tgggcacatg
                                                                           180
tagaaagtat titttataca gcacactggg gttaatggtg gaggctgctg atggctgaag
                                                                           240
gtgactaatg cgaggggctt ccttgagcta aggatgtgtg ggtcagcatc tctacagcat
                                                                           300
ctgaggattt ctgcttgtaa tcactttggt agaagtaact cattaacttt caagcctttc
                                                                           360
tcacaaaatt ctctttagtt tctctaatca gagaaaaata tgagaagaat caatgatgag
                                                                           420
acgatgcaaa cccacaccat acactttccc gcgtcccacc tcccttgtag ttctttaaca
                                                                           480
ggccatgtgc aggagtgtct gtgtgtgtgt gtgtgtgtgt gtgcgcacat tttgtgtgca
                                                                           540
caaaatgcgc cgtacctgcc cgggcggccg ctcgaaaggg cgaattccag cacactggcg
                                                                           600
gnogttacta agtggatccc gageteggta ceaagettgg egtaateatg gneatagetg
                                                                           660
nttcctgtgt gaaattggta tccgctcaca attccacaca acatacgagc ccggaagccn
                                                                           720
taagtgtaaa agccctgggg tgcctnatga gtgagctaac tccattaaat tgcgttgccg
                                                                           780
ctcactggcc ggtttcagtc cggnaaanct gcggncnact gcantaatga atcggncaac
                                                                           840
gcccccggga aaaaagcggt tgcgaattgg gccctntttc cctttcttgg ttaatggact
                                                                           900
contingnot tiggocontto ggnttiggni naacgggatt aanttinnitt naaagggggg
                                                                           960
naanacqqqt ttncccnana aatcnggggn aaacccccng gaaanaaacn ttggncccaa
                                                                          1020
                                                                          1024
      <210> 47
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
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                                                                           840
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cntttnttgg ccacgttngn ccgggttttc cccgtnaagc ttttaaaatn gggggcttcc
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                                                                           960
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caaatatgtg ggttggaaga aagaacgtgt agtagcagag ttttgggatg ggaaaatcgt
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gttggttctg ccacatgatc caagctttgc tatcaaaaag gtagaagatg tccaagaact
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acaggcattt cgtgtcctgt ctgaaccaat tggtccagaa tccccaagct ctacggaatg
                                                                 420
tectagget tggcaatgtt cagatgeace teggeegega ceaegetaag ggegaattee
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agcacactgg cggccgttac tagtggatcc gagctcggta ccaagcttgg cgtaatcatg
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gtcatagctg tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc
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                                                                 900
naaaggcccc caaaaggccc ngaacccgna aaaaagggcn cgnnnnnnnn ggggtttcct
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aaggttccgg cccctggnn aggtttccca aaaatngnnn cctttnannn nnnnngg
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nngnnnannn ncnnnnnnnn tngnnnnnnn nnnnncnttn ngggnnnang ncccnannnn
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nconnunn nunnunnun nunnunnun nunnunnun nunconanun nunnunnunn
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aaaaaaaaa aaaaaaaaa aaaaaaaaaa aaaaaaaa	240 300
tccntatann nnttttcgnn tntttnnngg ntngncctct nntnccnnnt tttttnggna	360
anccenaann ceengnetta eennatgngn cananttaaa anggtnentt nttnngngga	420
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tgnnngatgg tttttagggn ttcccgggtg ggaccnttnt tggggggaaa ttttggnccn	840
aggggntccc ctnnaagaaa tccnnnttcc nggncncnaa ttnccnnaaa aattnngggn	900
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taccagtttg accttgggca agttacctaa catctttgtg cctccatttt ctatttgtaa	600
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agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacattactt ggtgttaaca
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cattataact qtttaaaaat atatatqctt ataqtcaaaa qctqttqtqq tqttqttqtt
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ttatgcacac atatttaaca ctgttatcac aagcgtgtgc actgaaacaa gatagaggaa
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attaaaagta ggtatacata tgactgcaaa actgggctca gctgctactc tcggcaccct

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PCT/US99/13181

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cagegeeeta egecegteet ttegetttet tecetteett tetegeeaeg ttegeegget
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ttccccgtca agctctaaat cgggggctcc cttttagggt tccgaattan tgctttacgg
                                                                        780
accttgaccc caaaaaactt gantanggtg atgggtcacg taatgggccc atnggccttg
                                                                        840
anaagacggt ttttcgccct ttgacngttg gagtccacgt tctttaaaag gggactcttg
                                                                        900
gttccaaact ggaacaaccn nttaancctt atttngggct aatcctttgg aattaatnag
                                                                        960
ggattttgcc caatttgggc ccttnggtta aaaaaagggg cttgntttaa ccaaaaattt
                                                                       1020
aacc
                                                                       1024
      <210> 70
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 70
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atatetgeag aattegeect tagegtggte geggeegagg taegetgagg cetgggagte
                                                                        120
tcttgactcc actacttaat tccgtttagt gagaaacctt tcaattttct tttattagaa
                                                                       180
gggccagctt actgttggtg gcaaaattgc caacataagt taatagaaag ttggccaatt
                                                                       240
tcaccccatt ttctgtggtt tgggctccac attgcaatgt tcaatgccac gtgctgctga
                                                                       300
caccgaccgg agtacctgcc cgggcggccg ctcgaaaggg cgaattccag cacactggcg
                                                                       360
gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctgtt
                                                                       420
tcctgtgtga aattgttatc cgctcacaat tccacacaac atacgagccg gaagcataaa
                                                                       480
gtgtaaagcc tggggtgcct aatgagtgag ctaactcaca ttaattgcgt tgcgctcact
                                                                       540
gcccgctttc cagtcgggaa acctgtcgtg ccagctgcat taatgaatcg gccaacgcgc
                                                                       600
ggggagaggc ggtttgcgta ttgggcgctc ttccgcttcc tcgctcactg actcgctgcg
                                                                       660
ctcggtcgtt cggctgcggc gagcggtatc aagctcactc aaaggcggta atacngttat
                                                                       720
ccacagaatc aaggggatac gcaggaaaga acatgtgaac caaaaggcca caaaaggcca
                                                                       780
ggaacccgta aaaaaggccg cgttggctgg cgttttttcc atangcttcc ggcccccttg
                                                                       840
acgagcatta ccaaaaatcg acgctcaagt tcaaaggtgg cgaaancccg accggactnt
                                                                       900
taagaatccc agcgtttncc cctggaactt ccttgggcgc ttttctggtt ccaaccttgc
                                                                       960
cgttaccgga tacctggncc gcntttttcc ctttngggaa accngggcnt tntcaaaant
                                                                      1020
taac
                                                                      1024
```

<210> 71 <211> 1024

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 71
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                                                                         60
getggaatte geeettageg tggtegegge egaggtaett tttttttte ttttttaca
                                                                        120
tctgatttta atgcttcgtt aacttcaaaa ggaactggta gagttcagaa ggtgagctgt
                                                                        180
tgtttttcta aacctcttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                        240
tcctcattag aaggaaagta gaaagcctta ctgtaggatt tttaaaaaaa aatccatctc
                                                                        300
accccatatt ggtcttaaat aagtatagac taattaacct aagctacctt taacaacqta
                                                                        360
gaatttagat gggttcatat atgtgagaaa aacctgaata taggacaggg gtcctacttt
                                                                        420
tttccccacc tctgtcgccc aggctagagt atagtggtgt gatcttggcc cactgcaacc
                                                                        480
tetgetteet aggtteaagt gatteteetg ceteageete ceaagtaget gggattgtaa
                                                                        540
gagtatgcca ccacgcccag ctactttttg tatttttagt agagacaggg tttcatcatg
                                                                        600
ttggccagga tggtctctta actcctgccc tcaagtgatc caccagagag gagatcctcg
                                                                        660
gcctcccaa gtgctgggat tataggcatg agccaccgtg cccagcctac tttctaatta
                                                                        720
attaaaaaaa aaaaaaaac ttcccaaatg agctgataaa aaactgacgt gaggctgctt
                                                                        780
tgccttcaat aatacctagt tttcagctgt tccaactcgt ttccaaattg gaaattanct
                                                                        840
ggaacnccac tacagtaatc ttcanggaan gggaaaatta ggccttaaaa gaatccccag
                                                                        900
aaagttcanc atnggnancc tgnccnggcc ggnccgttca aaangggcna aatttgcaga
                                                                        960
aatteeatna eaettggegg geegttegan eatggetttt aangggeeca attgneeett
                                                                       1020
aaag
                                                                       1024
      <210> 72
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 72
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                                                                        60
tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta ccatgctgac
                                                                       120
ttcttggtat cttttaaggc ctaattttcc cttccttgag attactgtag tgtgttccag
                                                                       180
ctaatttcta tttggaaacg agttggaaca gctgaaaact aggtattatt gaaggcaaag
                                                                       240
                                                                       300
cagcetcacg teagettett ateageteat ttgggaagtt ttttttttt ttttaattaa
                                                                       360
ttagaaagta ggctgggcac ggtggctcat gcctataatc ccagcacttg gggaggccga
ggateteete tetggtggat eaettgaggg eaggagttaa gagaceatee tggeeaacat.
                                                                       420
gatgaaaccc tgtctctact aaaaatacaa aaagtagctg ggcgtggtgg catactctta
                                                                       480
caatcccagc tacttgggag gctgaggcag gagaatcact tgaacctagg aagcagaggt
                                                                       540
tqcaqtqqqc caaqatcaca ccactatact ctaqcctggg cgacagaggt ggggaaaaaa
                                                                       600
gtaggacccc tgtcctatat tcaggttttt ctcacatata tgaacccatc taaattctac
                                                                       660
                                                                       720
gttgttaaag gtagcttagg ttaattaagt ctatacttat ttaagaccaa tatggggtga
naatggattt ttttttaaaa atcctacagt aaggetttet aettteette taatgaggaa
                                                                       780
aaaggtgacc aaaantcaag tggcaatggc ccctttctgg ggaaaagttt anaaaaacca
                                                                       840
ccggttanct tntggaactt ttacccagtt cccttttgaa gttaccgaag cctttaaaan
                                                                       900
cagatgttaa aaaaggaaan nnnaaaaagt ncctttggcc gggaacccnc ttaagggcca
                                                                       960
aattccacac acttgggggg ccgntnccnt anggatccca ncttgggncc aaannttggg
                                                                      1020
gnaa
                                                                      1024
```

<210> 73

<211>. 1024

<212> DNA

<213> Homo Sapien

<220>

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<220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 73
gagnnnnnnt tnacttacac gccngcttgg taccgagctc ggatccctag taacqqccqc
                                                                       60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactgtgtt atggcacaga
                                                                      120
caatgettge ttageggtge ettgttacat aggtggatge agagtgegea caegggatga
                                                                      180
tggcaataaa gacctcactc agtcgttgga atgaaggaac taggtaactg cttcaacaag
                                                                      240
gacggtctca gctctacctt atctctcaac agagtgcaaa cactgagtgt gagctcagat
                                                                      300
gtcatcttgt tcctctttaa aattcaccaa attcttttgc acatttttct gttatagaga
                                                                      360
cacqqatatc ttcttcttca taqtcatcaa agttgctggt atctccagag cctctaaact
                                                                      420
ttggtatgaa tggagettea acetteetet ggtaaatage aateeaatet gtegtggeaa
                                                                      480
accacttgtg agtttttata tcactgacac cattctttag atttccaaat ctcttgatca
                                                                      540
600
atoggacott tocagaaaca atottttcat aaatotgaat tggttggtot gcaaagaatg
                                                                      660
ggggatagec agetgecatt teatagatta geactectaa tgeccaecaa tecaetgeet
                                                                      720
tattgnagec ettgetgaga attatttetg gagecaaata eetetggagt tecacataat
                                                                      780
ggccaagttc tgcctttaac tcttttggca aaccccaaaa gtctgtgacc cgggatatag
                                                                      840
ccctgatggn ccaatttaag aagaattttc angggtttaa aaactctggt aaatgaaggc
                                                                      900
taanggaaat ggaggnacct ttttttttt nnnnnnnttt ttttttnaa acnttgtaaa
                                                                      960
aggecaaaat tttggetana anttanttte aaagnttnaa acenttteea aatttttttt
                                                                     1020
                                                                     1024
taat
      <210> 74
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C \text{ or } G
      <400> 74
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                                                                       60
gatatetgea gaattegeee tttegagegg eegeeeggge aggtacagte aactgeattt
                                                                      120
                                                                      180
ttctctggtg accaagette cactgacaag gaagaggatt atattcgtta tgcccatggt
                                                                      240
ctgatatctg actacatccc taaagaatta agtgatgact tatctaaata cttaaagcct
                                                                      300
ccagaacctt cagcctcatt gccaaatcct ccatcaaaga aaataaagtt atcagatgag
cctgtagaag caaaagaaga ttacactaag tttaatacta aagatttgaa gactgaaaag
                                                                      360
aaaaatagca aaatgactgc agctcagaag gctttggcta aagttgacaa gagtgggatg
                                                                      420
                                                                      480
aaaagtattg ataccttttt tggggtaaaa aataaaaaaa aaattggaaa ggtttgaaac
                                                                      540
600
aaaaaaaaa aagtacctcc attcactaga cctcatctac agagatctaa aacctgaaaa
tctcttaatt gaccatcaag gctatatcca ggtcacagac tttgggtttg ccaaaagagt taaaggcaga acttggacat tatgtggaac tccagagtat ttggctccag aaataattct
                                                                      660
                                                                      720
cagcaagggc tacaataagg cagtgggatt ggtgggcatt aggagtgcta atctatgaaa
                                                                      780
tggcactggc tatccccatt cnttgcagac ccacccattc agaatttatt gaaaaagatg
                                                                      840
gttcttggaa ngnccgaatt cccattcccc ttcagntcna actcaagggc ccttttacgg
                                                                      900
                                                                      960
aancetggtt geangggga ttgateeagg anaatttgga aatettaaag aaaaggggne
cggggtttta aaaacctcnc aagngggttt gcccccancg naatgggatt ggtttttccc
                                                                     1020
                                                                     1024
ccna
      <210> 75
      <211> 1024
      <212> DNA
      <213> Homo Sapien
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<220>

<221> misc_feature <222> (1)...(1024)

```
<221> misc feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 75
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                                                                           60
gctggaattc gcccttagcg tggtcgcggc cgaggtacta tatgtatttt attaaaaatq
                                                                          120
tggaagatta atctgtttct ctctgaatgt agattttcac caaaacatct cttaaaacag
                                                                          180
cagggactca acacttaaaa atgaactaga agagctgggc acagtggctc acgcctgtaa
                                                                         240
teccageact ttgggaggee gaggegggea aateaettga ggteaggagt tegagaecag
                                                                         300
cctggccaac atggtgaaac cctgtctcta ctaaaaacac aaaaattaac tqqqcatqqc
                                                                         360
ggcacacgcc tttaatccca gctactcaag aggctgaggc aggagaatcg ctttgaacct
                                                                         420
gggaggcaga ggttgcagtg tgctgagatc ataccactgc attccagcct gggcgacaga
                                                                         480
gcaagactcc acctcaaaaa aaaaaagaag aaaagaaaat agtagtctca gccaggcgtg
                                                                         540
atggctcaca cctgtaatcc cagcactttg ggaggccaag gtgggcagat cacctgaggt
                                                                         600
caggagttcg agaccagcct ggcctacgtg gcaaaacctc atctctaata aaaatacaaa aattagcttg ggcgtggtgg catgcacctg tcatcccagc tatttgggag gctgagacag
                                                                         660
                                                                         720
gagaagtege tttgaacetg ggangcagaa aattgeggtg aagetaagat egeacgaett
                                                                         780
cacttccacc tgggcaaaag anggaactct atctcaaaaa aaaaaaangg aaaaagtagt
                                                                         840
ctntaagaca ctgggcaaac cttgaaagga attgagcagt cctcactttn ctgnagtcan
                                                                         900
tttgntnaat gccacatggc tcttttgnaa gaaatttgag agcttttttc taatcccaat
                                                                         960
ttttntaatt tgggaattee ttttteegga ttttttentt geenggnggt gtteecaang
                                                                        1020
gcct
                                                                        1024
      <210> 76
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 76
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                                                                          60
tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta ctctttgtgg
                                                                         120
ctggcttctt tttctgcaca caatgcctat gagaccataa ctaaagtcaa attccatggt
                                                                         180
cactaaccaa taatggcatc tcaaagaaat tccaacctag agaaattctg atgatgtggt
                                                                         240
tagaacacca atcaggacac tcacttcatg gttgataatt cccgacatgc actgattcag
                                                                         300
acccagetta ttgaatteat tgagteeaca ggeeageact ttgeetgact gggteaacag
                                                                         360
aaatgtccca tcacagccac attgaactgc aacaataatc aaggccttgg gaacatccac
                                                                         420
ctgcaagaaa aaaatcagaa aaagaaatcc caaatatata attcgtatta gaaaaaaagc
                                                                         480
tctcaaattc tttcaaaaga gacatgctgc atttagcaga atgactacag gaaagtgagg
                                                                         540
actgctctat tcttttcagg tttgcccagt gtcttagaga ctactttttc tttttttt
                                                                         600
tttgagatag agtttccctc ttttgcccag gctggagtga agtccgtgcg atcttagctc
                                                                         660
accgcaatct ctgcctccca ggttcaagcg acttctcctg tctcagcctc ccaaatagct
                                                                         720
gggatgacag gtgcatgcca ccacgcccag ctaatttttq qatttttatt aqaqnatgag
                                                                         780
gttttgccac gtaggccaag ctggncttga acttctgacc ctcaagtgac tggccaccct
                                                                         840
tgggccttcc aaagtgctgg gaattacagg gngagccatt acgcctggnn tgaaactcca
                                                                         900
attictitte ttentitti ttttggnggg gagettgetn tgeneceaag etgggaaage
                                                                         960
cangggatga cttnnnncac tggaacettg getteaggtt taaagggatt tetqqettaa
                                                                        1020
nccc
                                                                        1024
      <210> 77
      <211> 1024
      <212> DNA
      <213> Homo Sapien
```

 $\langle 223 \rangle$ n = A,T,C or G

<221> misc_feature <222> (1)...(1024) <223> n = A,T,C or G

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<400> 77
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                                                                           60
120
                                                                          180
ataggagcag cctgcatcat ttcaacgtgc cttcttttaa cactgtgatt gcttttcacc
                                                                          240
ttetteagge gtttteacet cetetggatt tggegggtee ateteetgee cateaggace
                                                                          300
atottcacac toacaccoag totgtgggtg accotgttoc tggctatgag ottcaggott
                                                                          360
eggecettga ectgeanatg eteceteate etetecetee tgageagetg caggateetg
                                                                          420
acgttgagtt gctggttccc cttcttcagg tgttgctggt tccgcttcat cactgaactg
                                                                          480
ctcgggccgc ataggcccaa tcatttcagg aggctgnacc tgcccgggcg gccgntcgaa
                                                                          540
agggcgaatt ctgcagatat ccatcacact ggcggccgnt cgagcatgca tctagagggc
                                                                          600
ccaattcgcc ctatagtgag tcgtattaca attcactggc cgtcgtttta caacqtcqtq
                                                                          660
actgggaaaa ccctggcgtt acccaactta atcgccttgc agcacatccc cctttcgcca
                                                                          720
gctggcgtaa taacgaaaag ccccgcaccg atcgcccttt ccaacagttg cgcancctga
                                                                          780
aagggcnaaa tggacncccc tggaacggcc attaaccccc gcnggnnnnn gggtaccccn
                                                                          840
caangngacc ggtacacttg gcaangccct aacgcccggt contttgntt ttettteett
                                                                          900
tentitinge aegitnnnee gggtttteee ggnaagetht naaatngggg ggteeeentt
                                                                          960
tngggtccna ataaggcntt tagggncctt ggnccccnaa aaatttgntt ttnnggggan
                                                                         1020
ggtc
                                                                         1024
      <210> 78
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 78
gnagnnnnnn ttgagtttgg gccctctaga tgcatgctcg agcggccgcc agtgtgatgg
                                                                           60
atatetgeag aattegeest ttegagegge egeeegggea ggtacageet eetgaaatga
                                                                          120
ttgggcctat gcggcccgag cagttcagtg atgaagcgga accagcaaca cctgaagaag
                                                                          180
gggaaccagc aactcaacgt caggatectg cagetgetea ggagggagag gatgagggag
                                                                         240
catctgcagg tcaagggccg aagcctgaag ctcatagcca ggaacagggt cacccacaga
                                                                         300
ctgggtgtga gtgtgaagat ggtcctgatg ggcaggagat ggacccgcca aatccagagg
                                                                         360
aggtgaaaac gcctgaagaa ggtgaaaagc aatcacagtg ttaaaagaag gcacgttgaa
                                                                          420
atgatgcagg ctgctcctat gttggaaatt tgttcattaa aattctccca ataaaqcttt
                                                                          480
acagoottot gtaaaaaaaa aaaaaaaaaa aaaaaagtao otoggoogog accaogotaa
                                                                         540
gggcgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt accaagcttg
                                                                         600
gegtaateat ggteataget gttteetgtg tgaaattgtt ateegeteae aatteeaeae
                                                                         660
aacatacgag cccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact
                                                                         720
cacattaatt gcgttgccgc tcactgcccg ctttncagtc gggaaacctg tcgtgccagc
                                                                         780
tgcattaatg aatcggncaa cgccccgggg aaaaagcggt ttgcgtattg ggcgctcttc gctttcttgg ttacttgact cnttgngcct tggccgttcg gttgcggnna acggtttcag cttacttcaa angcgggaaa tccggttttc cncggaaatc aggggaatac cccnggaaaa
                                                                         840
                                                                         900
                                                                         960
gaacttgtga accnaaaggc ccnccaaaag gcccngnaac cgtaaaaaan ggcccntnn
                                                                        1020
                                                                        1024
      <210> 79
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
```

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<400> 79
gngnnnnnnt taacnccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                         60
gotggaatto gocotttoga goggoogooc gggoaggtac tgtttttgto atttgcacca
                                                                        120
gcttctttct ccaggaaaga tcaaaacgat gcactgcaag gttaacatcc aatttttaat
                                                                        180
acattgtgat tggtccagat agctgcctta tccaactgcc tcctttggac cacttcatca
                                                                        240
tgggacaget tgatgcaate taettgacaa gaccetggaa ceccacacee etcatqqaac
                                                                        300
cagtgtccac ctcccagtca cagtgtgacc ccagggaact cttgcctgct tqctttaaac
                                                                        360
ccaccactta aaagteteca cagaaaacet gtttgaatag taccteggee gegaceaege
                                                                        420
taagggcgaa ttctgcagat atccatcaca ctggcggccg ctcgagcatg catctagagg
                                                                        480
gcccaattcg ccctatagtg agtcgtatta caattcactg gccgtcgttt tacaacgtcg
                                                                        540
tgactgggaa aaccetggeg ttacceaact taategeett geageacate ceeetttege
                                                                        600
cagctggcgt aataagcgaa gaggcccgca ccgatcgccc ttcccaacaq ttqcqcaqcc
                                                                        660
tgaatgggcg aaatggacgc gccctgtagc ggcgcattaa gcgcgggcgg gtggtggtgg
                                                                        720
ttacgccgca gcgtgaccgc tacacttgcc agcgccctta cgcccgctcc tttcgctttc
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ttcccttcct ttttngcacg ttcggccggc ttttcccgtc agctctaaat cgggggctcc
                                                                        840
cctttagggt tccgaattan tgctttacgg gaccttganc cccaaaaact tggnttaggg
                                                                        900
gtgagggtca cgtatgggcc attggccctg aaaanacggt ttttcgcccc tttgaccctt
                                                                        960
ggaatcncgt nnttttaaaa ggggactttg gtcccaactg ggacaacnnt taacccctta
                                                                       1020
ttng
                                                                       1024
      <210> 80
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or.G
      <400> 80
gnagnnnnnn ttnnnttgng aattgggccc tctagatgca tgctcgagcg gccgccagtg
                                                                         60
tgatggatat ctgcagaatt cgcccttagc gtggtcgcgg ccgaggtact attcaaacag
                                                                        120
gttttctgtg gagactttta agtggtgggt ttaaagcaag caggcaagag ttccctgggg
                                                                        180
tcacactgtg actgggaggt ggacactggt tccatgaggg gtgtggggtt ccagggtctt
                                                                        240
gtcaagtaga ttgcatcaag ctgtcccatg atgaagtggt ccaaaggagg cagttggata
                                                                        300
aggcagctat ctggaccaat cacaatgtat taaaaattgg atgttaacct tgcagtgcat
                                                                        360
cgttttgatc tttcctggag aaagaagctg gtgcaaatga caaaaacagt acctgcccgg
                                                                        420
geggeegete gaaagggega attecageae actggeggee gttactagtg gateegaget
                                                                        480
cggtaccaag cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc
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tcacaattcc acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat
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180

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                                                                          180
                                                                         240
aatacatagc attaaatccc aaatcctatt taaagacctg acagcttgag aaggtcacta
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ctgcatttat aggaccttct ggtggttctg ctgttacgtt tgaagtctga caatccttga
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                                                                         420
cagaatgaag ggccaggctt actgagctgt ccagtggagg gctcatgggt gggacatgga
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tccaaatgct ttgggaactg tgtttattgc ctataatggg tccccaaaat gggtaaccta
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ggtt
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aaaaaaaaaa atttaatttt taaaaattag tggtatggca ataagacact tcagaggcta
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aatt
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                                                                       660
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tgggangggg aaggctggat ttcctttcnc ttaacctnga gggtatatcc cctgnttggg
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gggc
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tteteqttet qaqqqacaqq ettgagateq getgaaqaga gegqqeecag getetqtqaq
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gaggcaagac acagtgggtc gcaggatctg acaagagtcc aggttctcag gggacaggga
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gagcaagagg tcaagagctg tgggacacca cagagcagca ctgaaggaga agacctgcct

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tgagacacag ggcctcgagg gtgcacaggc tcccctggct gtggaggagg atgcttcatc
                                                                          480
atcoactice accageteet etitteeate etetticee tectectett ticeteetee
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cccctccaan genngenngn nggnetttgg genttgangn nnaanggnaa gggateceen
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cnnn
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                                                                         240
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                                                                         480
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angaagaaga ngaagaagga aaagaggatg gaaaagaagg actgggtgga aatggatgat
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gaagcatnet tetteacage ceaggggaac etgtgeacee ttnaagggee tggggettae
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ccna
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acagcattgg taacagtctt cccaaggtag gcttctgcaa tttccttcat ctttgtcaga
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accatagaag acacctcctc tggatagaag cttttggtct ctcccttgta ttctacttgg
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accttgggcc tgccagcatc attcaccacc ataaagggcc aatgtttcat atcagactgg
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acaacagcat catcaaatct gcgtccaatc agacgtttgg catcaaaaac tgtgtcggtq

•	
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<210> 88 <211> 1024 <212> DNA <213> Homo Sapien	
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600

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PCT/US99/13181

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ggccgctcga aagggcgaat tccagcacac tggcggccgt tactagtgga tccgagctcg
                                                                       600
gtaccaaget tggcgtaate atggtcatag ctgntteetg tgtgaaattg gtateegete
                                                                       660
acaattccac acaacatacg agcccggaag cataaagtgt aaagccctgg ggtgcctaat
                                                                       720
gagtgagcta actcacatta aatgcgttgc gctcactggc cgctttncag tccgggaaac
                                                                       780
ctgtcgtgcc agctgcatta atgaatccgg ncaacgcccc ggggaaaaaag cggttgcgta
                                                                       840
ttgggcgctc ttncgctttc ttggttactg gctccttgng cctcggccgt tccggnttcg
                                                                       900
gnnaaccggt atcagcttac ttcaaangcg gnaaatccgg tttncccnga aatccggggg
                                                                       960
ttaacnccag gaaaanaacc tttgaaccna aagggccccn aaaagggccc ggaaccctaa
                                                                      1020
                                                                      1021
     <210> 104
      <211> 1017
      <212> DNA
     <213> Homo Sapien
```

```
<220>
      <221> misc feature
      <222> (1)...(1017)
      <223> n = A, T, C or G
      <400> 104
ggagnnntta atcnacgeen gettggtace gageteggat eectagtaac ggeegeeagt
                                                                           60
gtgctggaat tegecettag egtggtegeg geegaggtae teagetgtet taataggatg
                                                                          120
aagccttaag cagtggaaat ttcagttatt ttccacagta ttccattttg gaggatttgg
                                                                          180
ggtgtttact ttttaaattc ttgaacaact taacctccat gaggctttgt gaagtcagct
                                                                          240
gtgaccaccc tcctcttact gtgttctcag tattcattca cttccaggga agaatgacag
                                                                         300
ccacagggag atggtggtgg gcaagaatga gagtcccagg atccagattt agcctcagat
                                                                         360
cttccccatt caggaagggt tttccattta acaagagcac tagtatgaaa acattaggga
                                                                         420
caaatctccc atgtctttga aattcggatt ctcctcttga gatccccttc ctcacctgcc
                                                                         480
aatcaacttt ataaggccac aagtggtcac tggttttcct tccacaggtt tqaggttctc
                                                                         540
agettteett aagegaecea geageteege tgtttteaga gtgaatatgt taagetttga
                                                                          600
tgagattcta ttttcagtaa gttagtgctt ctgggacact tggagaaagc tgtgagagtc
                                                                         660
attggctacg caaagaacaa cgaaagctga tcctaaaagt gatccaatct aagaaaatgg
                                                                         720
taaaacgagc tetggccaca qcacaqaatt ttatgtqanq aactcaqatt tttqaaqact
                                                                         780
taacaattgc agaaaaaggn tgcagcctgn acacccatag cccaactttt ntgagccana
                                                                         840
ctttgggttt tgggngggga cntggcacca tgtttgnacc tggccggccg gnccgttcna
                                                                         900
aagggccaaa ttntggcnga aatnocttac actggggggc cgtttgagca tgcctntaaa
                                                                         960
ngggcccaan tngnccctta aagggggcn nnttccaatt nnctgggccc ggttttn
                                                                        1017
      <210> 105
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 105
ggagnnnntt nnntnnngan tgggcctct agatgcatgc tcgagcggcc gccagtgtga
                                                                          60
tggatatetg cagaattege cetttegage ggeegeeegg caggtacaaa catgtgeeae
                                                                         120
gtcaccacac aaaaccaaag tctgctcaga gaggtgggct atggtgtgca ggctgcaacc
                                                                         180
tttctctgca attgttaagt cttcaaaaat ctgagttcct cacataaaat tctgtgctgt
                                                                         240
ggccagagct cgttttacca ttttcttaga ttggatcact tttaggatca gcttcgttgt
                                                                         300
tetttgegta gacaatgact etcacagett tetecaagtg teecagaage actaacttae
                                                                         360
tgaaaataga atctcatcaa agcttaacat attcactctg aaaacagcgg agctgctggg
                                                                         420
tcgcttaagg aaagctgaga acctcaaacc tgtggaagga aaaccagtga ccacttgtgg
                                                                         480
ccttataaag ttgattggca ggtgaggaag gggatctcaa gaggagaatc cgaatttcaa
                                                                         540
agacatggga gatttgtccc taatgttttc atactagtgc tcttgttaaa tggaaaaccc
                                                                         600
ttcctgaatg gggaagatct gaggctaaat ctggatcctg ggactctcat tcttgcccac
                                                                         660
caccatctcc ctgtggctgt cattcttccc ctgaagtgaa tgaatactga gaacacagta
                                                                         720
aggaaggagg gtggtcacaa gctgacttca caaagcccta atgganggtt aagttggtca
                                                                         780
agaatttnaa aagtaacccc cccaaatcct ccaaaaatgg gaatactggt ggaaaataac ctggaaattn ccctggttta aggcttcatt ctattaagac cgcttgagta cccttggccg
                                                                         840
                                                                         900
ngaaccccct taagggcgaa ntncaacaca ctgggngggc cggtacctaa nggatcccaa
                                                                         960
ctnggnaccc aanchttggg gaaancatng ggccataact gggttcccgg ggggaaatgg
                                                                        1020
taat
                                                                        1024
      <210> 106
      <211> 1007
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1007)
```

<400> 108

```
\langle 223 \rangle n = A,T,C or G
```

```
<400> 106
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                         60
getggaatte gecettageg tggtegegge egaggtacae agaatagetg ageagtteae
                                                                        120
ttcagggatc aggtcatctc tgctcctcct agtttcacca tgttctggca ataaaaaaca
                                                                        180
catattatat cotggttttc totatcottg cattactaag gtgactgtct ctctttatac
                                                                        240
atcettgtat ggttetecca gtattageaa gattgtatat etgtaaagaa tgteeagttt
                                                                        300
tgtaaatatt tccctgcctt ttttttctt tttttacatc tgattttaat gcttcgttaa
                                                                        360
cttcaaaagg aactggtaga gttcagaagg tgagctgttg tttttctaaa cctcttccca
                                                                        420
ggaaggggac attgacactt gaattittigt caccttitte ctcattagaa ggaaagtaga
                                                                        480
aagcettact gtaggatttt taaaaaaaaa teeateteae eecatattgg tettaaataa
                                                                       540
gtatagacta attaacctaa gctaccttta acaacgtaga atttaanatg ggttcatata
                                                                       600
tgtgagaaaa acctgaatat aggacagggg tcctactttt ttccccacct ctgtcqccca
                                                                       660
ggctagagta ntaantggtg gatcttggcc cactgcaacc tctgcttcta gggtcaagtg
                                                                       720
attotoctgo toagootnoo aagtanooog ggaattggaa gagtatgcca ccacgcccag
                                                                       780
ctactttttg gaattttagt nnaaaacagg ttcatcatgn tggncccnga agggcnctta
                                                                       840
antectgnee ttnagngate ecceennana ngaaacentg gnenneceaa nnnnenggnn
                                                                       900
tntagcnnnn ceneegngee cannetaett tnnnaannnn nnnnnnnnn nnnnnnnnn
                                                                       960
nnnnnnnaa nnngnncnnn nccngnnngn ccnnnnnngg gnaantc
                                                                      1007
      <210> 107
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 107
gnagnnnnnn nngattgggc cctctagatg catgctcgag cggccgccag tgtgatggat
                                                                        60
atctgcagaa ttcgccctta gcggccgccc gggcaggtac ttttttttt tttttttt
                                                                       120
tttttttt aattaattag aaagtaggct gggcacggng gctcatgcct ataatcccag
                                                                       180
cacttgggga ggccgaggat ctcctctctg gnggatcact tgagggcagg agttaaqaqa
                                                                       240
ccatcctggc caacatgatg aaaccctgtc tctactaaaa atacaaaaag tagctqqqcq
                                                                       300
tggtggcata ctcttacaat cccggctact tgggaggctg aggcaggana atcacttgaa
                                                                       360
cctaggaagc agaggttgca gtgggccaag atcacaccac tatactctag cctgggcgac
                                                                       420
agaggtgggg aaaaaagtag gacccctgtc ctatattcag gtttttctca catatatgaa
                                                                       480
cccatctaaa ttctacgttg ttaaaggtag cttaggttaa ttagtctata cttatttaag
                                                                       540
accaatatgg ggtganatgg atttttttt aaaaatccta cagtaaggct ttctactttc
                                                                       600
cttctaatga ggaaaaaggt gacaaaaatt caagtgtcaa tgccccttcc ttggggaaga
                                                                       660
ggtttagaaa aacaacagct caccttntga acttttacca gttccttttt qaqttaaccq
                                                                       720
aagcnttaaa aatcagatgt aaaaaangaa aaaaaaaggc cgggaaattt ttaccaaact
                                                                       780
nggacattct ttacagatat acaatcttgc taaaacctgg gaaaaccctt cccngggtgt
                                                                       840
ttaaagggga aacagtcccc cttataatgc ccggggttna gaaaancccg gattttnnaa
                                                                       900
aaaggggttt tattgcccaa aactggggga accttngggg ggncccaaaa nnaacctgan
                                                                       960
cccctgaagg naccgggtnn annnntttt tgggaccttg gccgggaacc ccctttnggg
                                                                      1020
ggna
                                                                      1024
      <210> 108
      <211> 470
      <212> DNA
      <213 > Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(470)
      <223> n = A,T,C or G
```

```
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                          60
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtactattt ttttttttt
                                                                         120
ttttcgtgtn tttgacattc cttgaatctg ttttttattc cccttccaca gaacaggcct
                                                                         180
gggactttcc aacaccctgc taaggaagtt ctgtgtccaa gtcccaccca ggctgggttg
                                                                         240
tececacetn etneageeca cacageecag geageateeg ggeeagtgee etgeatgaca
                                                                         300
nagggtettt gttgtgtaat gnttgtteee aagttgeatt ttetaacega atcagtgtgt
                                                                         360
tttcatgaaa ctgagtgtta ctgtggacca gtaagttnct ctgttgtctt cagtggtctt
                                                                         420
cctgtgtggc tcaagggttc tctgtgagag tctggatttt catttctggg
                                                                         470
      <210> 109
      <211> 808
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (808)
      <223> n = A, T, C \text{ or } G
      <400> 109
gggcctctag angcatgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                         60
agcgtggtcg cggccgaggt acaagtctgc ctaagagaca gaagtgagtn ttataatcta
                                                                        120
cttggccatt cctcccagca gagaagcagc aggtagatat ggcatgcact gtgcctgctg
                                                                        180
ctgctgctct tgtggcgaac actcagatgt ggaaccatag agggaccttg aggagctggg
                                                                        240
acatgattct ttagagaaga gaagagacgg ggagcacagc atgagaatgg ccagtcaacc
                                                                        300
catttcaaat tottttatta aagtgccccc cgaggggcct tgcacaaaga tgatggggag
                                                                        360
agcagaactg ctgctccttg acagaactct gatccttaca ctttgtttgg agtgggcttg
                                                                        420
gqqacagtca caagccatga aacatgaatc caaaatggtc cccagatgag ccatggtgaa
                                                                        480
ccaacagatg caagcaactt cttaaactgc tctattaaac actgctttat atgtgtcccc
                                                                        540
atgatacaga aaagtgggat ggggccagcc attccagaaa tgaaaatcca gactctcaca
                                                                        600
gagaaccett gagccacaca ggaagaccac tgaagacaac agaggaacta ctggtccaca
                                                                        660
gaaacactca gtttcatgaa aacactga ttcgggtaga aaatgcaact tqqqaacaaa
                                                                        720
cattacacaa caaagaccct ctgtcatgca gggcactggc ccggatgctg ctgggctgtg
                                                                        780
tgggctggaa gangtgggga caacccac
                                                                        808
      <210> 110
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (471)
      <223> n = A, T, C \text{ or } G
      <400> 110
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggcccgc
                                                                         60
cagtgtgctg gaattcgccc tttcgagcgg ccgcccgggc aggtacagcg acgtgatgat
                                                                        120
gtagaggege tteccateca ggetgagetg gateatetga gggeetneag ceacecgttt
                                                                        180
tecettgace actagggget etggetggga etttagttee tegteeteea geaettgeae
                                                                        240
agggcctccc ttaacaatgc tgcctccgag gaagagctgt cctgtgaggc ggggtctctg
                                                                        300
tgggtcagag atgtcatact gcctcaggtc cccatgcagc cagttgctga agtagaggaa
                                                                        360
gcggtcgtcc agggagagca ggatgtcggt gatcaggcct ggcatttcgg gcagcagcca
                                                                        420
gcccttcact ttcttggggg gcacctggat caccttctcc actgaccatg t
                                                                        471
      <210> 111
      <211> 468
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
```

```
<222> (1) . . . (468)
       \langle 223 \rangle n = A,T,C or G
       <400> 111
actatgacca tgattacgcc aagcttggta ccgagctcgg atccctagta acggccgcca
                                                                         60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt acttnnttnc tttntttaca
                                                                        120
tetgatttta atgettegtt aactteaaaa ggaactggta gagtteanaa qqtqaqetqt
                                                                        180
tgttttncta aacctnttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                        240
tcctcattag aaggaaagta naaagcctta ctgtaggatt tttaaaaaaa aatccatctc
                                                                        300
accecatatt ggtettaaat aagtatagae taattaaeet aagetaeett taacaaegta
                                                                        360
gaatttagat gggttcatat atgtgagaaa agcctgaata tangacaggg gtcctacttt
                                                                        420
tttccccacc tetgtcgccc aggctggagt atagtggtgt gatcttng
                                                                        468
      <210> 112
      <211> 813
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (813)
      <223> n = A,T,C or G
      <400> 112
attgggcctc tnnagcatgc tcgacggccg ccatgtgatg gatatctgca gaattcgccc
                                                                         60
tttcgagegg ccgcccgggc aggtaccatg ctgacttctt ggtatctttt anggcctaat
                                                                        120
tttcccttcc ttgagattac tgtagtgtgt tccagctaat ttctatttgg aaacgagttg
                                                                        180
gaacagctga aaactaggta ttattgaagg caaagcagcc tcacgtcagt tttttatcag
                                                                        240
ctcatttggg aagttttnnt ttttttntn ttaattaatt agaaagtagg ctgggcacgg
                                                                        300
nggctcatgc ctataatccc agcacttggg gaggccgagg atctcctctc tggtggatca
                                                                        360
cttgagggca ggagttaaga gaccatcctg gccaacatga tgaaaccctg tctctactaa
                                                                        420
aaatacaaaa agtagctggg cgtggtggca tactcttaca atcccagcta cttgggaggc
                                                                        480
tgaggcagga gaatcacttg aacccaggaa gcagaggttg cagtgggcca agatcacacc
                                                                        540
actatactcc agcctgggcg acagaggtgg ggaaaaaagt nagacccctg tcctatattc
                                                                        600
aggetttget cacatatatg aacceateta aattetaegt tqttaaaqqt aqettaqqtt
                                                                        660
aattagncta tacttattta agaccaatat ggggtganat ggattttttt ttaaaaatnc
                                                                        720
tacagtaagg ctttctactt tccttctaat gaggaaaang gtgacaaaaa ttcaagtgtc
                                                                        780
natgcccctt cctggggaag aggtttaaaa aat
                                                                        813
      <210> 113
      <211> 506
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(506)
      <223> n = A,T,C,or G
      <400> 113
nccaacttgg taccganctc ggatccctag taacggcana cattganctg atacgccaag
                                                                        60
cttggtaccg ageteggate caetagtaae ggnegeeagt gtgetggaat tegeeetteg
                                                                        120
ageggeegee egggeaggta egeggggeet etggegetae catggegttt ggeaagagte
                                                                        180
accgggatcc ctacgcgacc tccgtgggcc acctcataga aaaggctaca tttgctggag
                                                                       240
ttcagactga agattggggc cagttcatgc acatctgtga cataattaac actacccagg
                                                                       300
atgggccaaa agatgcagtg aaagctttga agaaaangat ttncaaaaac tacaatcata
                                                                       360
aagaaatcca acttaccttg tcacttattg acatgtgtgt gcagaactgt ggtccaagtt
                                                                       420
tccagtctct gattgtgaag aaggaatttg ttaaagagaa tttagttaag ctactgaatc
                                                                       480
ccagatacaa cttgccatta gacatt
                                                                       506
```

<210> 114 <211> 813

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720

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (813)
      <223> n = A, T, C \text{ or } G
      <400> 114
gggcccntnn agctgctcga gcggccgcca gtgtgatgga tatctgcaga attcgccctt
                                                                           60
agogtggtog oggoogaggt acaacttatt ctaaatattt toattttotg tgttotaaat
                                                                          120
agaaatatta agttgcagta aaaagagaaa aaaaggctat ttagcattac aaagaatcat
                                                                          180
atttaaaggc tgcccaatgt agagtctagt gacctgttca ggacacctga aatataatta
                                                                          240
aatgacaatt atcaaggttt taacaattta taattctaaa ccagaggatt ataaagaagt
                                                                          300
gcaaattgac ttttacattc aactttagtt aaatgaaggc actcagtatt cttcctgaat
                                                                          360
aatacattca gtttctcaca ttttatgctt tcatctattc agaattattt catagtaaaa
                                                                          420
taatctactc ttatcacagc tgtgtgacga tttctaaatg taggaaggcc tgtgaaacat gacactgcag ttaaattggt tggcctaagg actaagtaat ttttcttctg ctgaagtttt
                                                                          480
                                                                          540
aagtgagtat ttgttccaaa caagttctgt tgaaatctca cgctgttgtc aggaatcagt
                                                                          600
qttatcctqq aactqttatt ctatttaatc ttcattataq caqaaatqtq ccaccatqqc
                                                                          660
tttgacatgt tggtaggtat tgtcttccag gcttcaaagc tgcacagagt ctacgtttta
                                                                          720
gagagttggc acctttgatg tggtagtgag ctgatcatnc actttcttct cagtcaccat
                                                                          780
cattttgagc tcctttgtgc tggtgagcat can
                                                                          813
      <210> 115
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <400> 115
accagetatg acctgattac gecaagettg gtaccgaget eggatecact agtaaeggee
                                                                           60
gccagtgtgc tggaattcgc ccttagcgtg gtcgcggccg aggtaccatg attttgtgtt
                                                                          120
caggaaacaa agaacatgaa atattacatt cttcagaatg tttttcttgt gccattaaat
                                                                          180
gaatcaagta aatgaggcaa tgaggcacaa ataaggaatt tagatttcag caatattttg
                                                                          240
atccactgta gctttcagtt tctgaaactt tggaagggcc tacatacttt gtaagaattt
                                                                          300
ttggcttata ttgttaataa tcaacagagc caagaaaaca tttcttagaa tgttcaaaga
                                                                          360
caccacctta gccttccttc cctgcagcta taacattatt tttctaagag aaaaggcaga
                                                                          420
gagtetteae aaageeatae eagaettaaa attaceagag aacattttgg t
                                                                          471
      <210> 116
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(818)
      \langle 223 \rangle n = A,T,C or G
      <400> 116
ttncannggg cccctagagc atgctcgacg gccgccatgt gatggatatc tgcagaattc
                                                                           60
120
tgtggtcttg aactcctggc ctcaaatgat cttcctgcct cagcctccca aagtcctggg
                                                                          180
attactggca tgagtcacca cacctggctc attettttc ttaatatggc tctaaatggc
                                                                          240
tttttattt ttttgctttg gcaatttatt tctaggaaat taaataattc tttcattata
                                                                          300
atcaagggaa tgaaagactt caggaggtcc atagtggagt tcaaaaccat atggagttca
                                                                          360
ctattctaca agattataca ggcaataata taagtattct aaggtgtttt aggtagattt
                                                                          420
atagatgtta gatttcaaaa tgggttaata agtgtttatg aatttccaag gtgtatcact aacttctcaa gatgaaatca tatatagaaa ctatcaaaat tttccttgtt ctgctgtcaa
                                                                          480
                                                                          540
gaaatgaata atatacactg atataactgt aactcacatc taaagggata gtgcttgaat
                                                                          600
aagctaattt acaatgagtt caaggtatta ttttaaaatt cttattqncc ttaqacaata
                                                                          660
```

attatgccaa caaatgtgaa aaatattaaa tctccttctg ntaatttttc cagttttatt

```
acccaaaagt cacacaggta atgcaagtca tgaaataaat caaatgagcc cttcctggag
                                                                           780
agcctacttt atttaccttg ggaaaatgga tgacatnt
                                                                           818
     <210> 117
       <211> 467
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc feature
       <222> (1)...(467)
       <223> n = A,T,C or G
       <400> 117
accactatga cctgattacg ccaagettgg taccgagetc ggatccacta gtaacggccg
                                                                            60
ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtactac tggttttctc cctggcttca cgtgtctctg tgttccccta tgctgggtg tcctcccagt gctttcaggc
                                                                           120
                                                                           180
ttcatctcct tcctaacctc tcctttctat titttittt ttttttgaga tggagtcttg
                                                                           240
ctcagtcgcc cangctggag tgctaacctc tcctttcatg tggagatgga cagggatggc
                                                                           300
aggageactg agtgetettg acaacaccat tgaagatgat getgacgate agetaccetg
                                                                           360
tggagaaggc aggccaggct gggtgagagg ggagctcctt ggaagtcagg gggtctgtaa
                                                                           420
ggacagcaag gatctctttg tcccaacctc cagcagcctt tatgggt
                                                                           467
       <210> 118
       <211> 815
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(815)
      \langle 223 \rangle n = A,T,C or G
      <400> 118
gggcctctna agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcqccctta
                                                                           60
gegtggtege ggeegaggta cetggggtet eagggttget etgggeetga teatecacte
                                                                          120
agatetgtaa ggaggatttg caggatecat ttagaaagat cetecettae ttecacaage
                                                                          180
atggcctttg gctcttaaat acctgtgctg gggttttgta attatagaaa caacaggaac
                                                                          240
caaaactcat taatgttgag ctacaaacca gagggaagct tctttctcaa aacagggctc
                                                                          300
aggcctagaa aaatctagtt ttctgaaatc gctagccagc aacagcactg agatggccat
                                                                          360
cccagaaaca aggccaacac agaagcaccc ataaaggctg ctggaggttg ggacaaagag
                                                                          420
atcettgetg teettacaga ecceetgact tecaaggage teceetetea eccageetgg
                                                                          480
cctgccttct ccacagggta gctgatcgtc agcatcatct tcaatggtgt tgtcaagagc
                                                                          540
actcagtgct cctgccatcc ctgtccatct ccacatgaaa ggagaggtta gcactccagc
                                                                          600
ctgggcgact gagcaagact ccatctcaaa aaaaaaaaa aaaatagaaa ggagaggtta
                                                                          660
ggaaggagat gaagcetgaa agcaetggga ggacacecca gcatagggga acacagagae
                                                                          720
acgtgaagcc agggagaaaa ccagtagtac ctgcccggcg gccgntcgaa agggcgaatt
                                                                          780
ccagcacact ggcgggccgt tactagtgga tccct
                                                                          815
      <210> 119
      <211> 811
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(811)
      <223> n = A,T,C or G
      <400> 119
gggcctctnn agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                           60
egtggtegeg geegaggtae tetatttttt gettgtatga ttgatgggte ttteattate
                                                                          120
```

```
tgtgattgac attctatgag taggtgcttt tgctttgcct ataagtcgtt attatgaagg
                                                                         180
 aggaatggtg aataagaagg taatttagaa aagcctatat taaatatacc atqaacattq
                                                                         240
 aatatagcaa gatcttattc tctagttgtt atcttagttg ataaattctg tatgtgttat
                                                                         300
 gtgtttgtgt atacatatgt acttaatctg atcggtatct aaaagaagga aaqqatqqtc
                                                                         360
 aggaaacatt tatcataaat gtagccaagg atatcaatta gggtagacaa gaataggaca
                                                                         420
 aaaataggcc agagctcctg aggaggtgat atgggtccct tgatttqcaq aaaatqacaq
                                                                         480
 cctatccaag tggcccagtg tatgcctccc agtagcagtg ggcatgtaaa ctgcagcgac
                                                                         540
 cttattttta aaaccaaaaa cctagtatgt ggacaaagaa catgacaata tttggtacct
                                                                         600
 gcccgggcgg ccgctcgaaa gggcgaattc cagcacactg gcggccgtta ctagtggatc
                                                                         660
cgagctcggt ccaagcttgg cgtaatcatg gtcatagctg gttcctgtgt gaaattggta
                                                                         720
tcccgctcac aattnccaca cacatacgaa cccggaagca ttaaagtgta aaagcctggg
                                                                         780
gtgcctaatg aagtgagcta ctcacattaa a
                                                                         811
       <210> 120
       <211> 466
       <212> DNA
       <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (466)
      \langle 223 \rangle n = A,T,C or G
      <400> 120
anttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                         60
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg tacccacgtt ttgctccaca
                                                                        120
ctccttgacc acaggggctc ggacacaaac ccctgtcacc aggagagtca gtcagcacta
                                                                        180
cttgggaggg ctaaagggaa atttggaaat aaaattccaa agtttggagt aaaaaaattc
                                                                        240
aagtgttgat tttatattct ttccctttct gacacagcct aaagcgtagg gggaacatgt
                                                                        300
gtttatctgt gggagataaa caagatggag tcccaaagac tttaacaaaa tatttttta
                                                                        360
aaaatccact agaatagaaa atacattatt tagatatact ttatgctgag agtgagtata
                                                                        420
tatgcttgtc ctatttaaac ttgtgagaaa aagtggtatc ccttng
                                                                        466
      <210> 121
      <211> 812
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (812)
      \langle 223 \rangle n = A,T,C or G
      <400> 121
ttgggcccnt nnagcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc
                                                                         60
cttagcgtgg tcgcggccga ggtacaactc tccagggcac aatacgttta cagctqcctt
                                                                        120
tectteacat actitictaa ticagaacta etcacaatte taagcaaatt eccatteacg
                                                                        180
aagtotgtoo ataatgogao ottototttt tttaacatat acatottaaa aaacaaatat
                                                                        240
ataaaaaatt cttattttgc tggaatgctt tcaatttttc acattttaca tgatcatcac
                                                                        300
atttatttct tatattgaaa ggcatggttt ctgttgacat gtcgtgcaaa gccaaaaaaa
                                                                        360
aaaaaaaaa aaagggctgg attgcttttc aattggtcta acacttttcc ttgtctaggc
                                                                        420
tttggatttt aaagttcatg acagccccac caccagtaga aaccccaagg cttgcatttc
                                                                        480
ctggtaatcg actggaaacg tcccctgttg gccatgctaa gattccttca acagggtcat
                                                                        540
cotgoattta ttotcottot goccoacco cacaatgaaa caagatagoo cocatattto
                                                                        600
taaatgtatc aagggatacc actttttctc acaagtttaa ataggacaag catatatact
                                                                        660
cacteteage ataaagtata tetaaataat gtatttteta ttetaqnqqa tttttaaaaa
                                                                        720
aatattttgg taaagtcttt ggggactcca tcttggttat cttccacaga taaaccatgt
                                                                        780
tccccctacg ctttaggctg tggtcagaaa gg
                                                                        812
```

<210> 122

<211> 467

<212> DNA

<213> Homo Sapien

```
<400> 122
actatqacca tqattacqcc aaqcttgqta ccgagctcgg atccactagt aacggccgcc
                                                                     60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg taccatgctg acttcttggt
                                                                    120
atcttttaag gcctaatttt cccttccttg agattactgt agtgtgttcc agctaatttc
                                                                    180
tatttggaaa cgagttggaa cagctgaaaa ctaggtatta ttgaaggcaa agcagcctca
                                                                    240
300
                                                                    360
ggatctcctc tctggtggat cacttgaggg caggagttaa gagaccatcc tggccaacat
                                                                    420
gatgaaaccc tgtctctact aaaaatacaa aaagtagctg ggcgtgg
                                                                    467
     <210> 123
     <211> 864
      <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) . . . (864)
     \langle 223 \rangle n = A,T,C or G
     <400> 123
gggcctctng agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                   . 60
tcgagcggcc gcccgggcag gtacttttt ttttttttt tctttttta catctgattt
                                                                    120
taatgcttcg ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc
                                                                    180
                                                                    240
taaacctctt cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt
agaaggaaag tagaaagcct tactgtagga tttttaaaaa aaaaatccat ctcaccccat
                                                                    300
                                                                    360
attggtetta aataagtata gaetaattaa eetaagetae etttaacaae gtagaattta
gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac ttttttcccc
                                                                    420
                                                                    480
acctetyteg eccaggetag agtatagtgg tytgatettg geccaetyca acetetyett
cctaggitca agtgattctc ctgcctcagc ctcccaagta gctgggattg taagagtatg
                                                                    540
ccaccacqcc caqctacttt ttgnattttt agtagagaca gggtttcatc atgttggcca
                                                                    600
                                                                    660
ggatggnete ttaactectg cecteaagtg gatecaceag agaaggagat ceettggnet
tccccaagtg cctggggatt attaggcatt gaagcccacc cgtggcccca agccctacnt
                                                                    720
780
                                                                    840
aaattqqanc ctqqqtttaa aaaaacctqg acccttnaan gggcntggnt tttggccctt
                                                                    864
tnaaataaat tncccctaag gnnt
     <210> 124
     <211> 467
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (467)
     \langle 223 \rangle n = A,T,C or G
     <400> 124
                                                                     60
antatgacct gattacgcca agettggtac egagetegga tecaetagta aeggeegeea
                                                                    120
qtqtqctqqa attcqccctt tcqaqcqqcc gcccgggcag gtacatgcac acacacacac
acacacaca acgtgtctac tgggctcctt ttggattttt tagttcaatc agaaatcacc
                                                                    180
aaacagatca ataaagaggc aatgttaaat gaccgggaaa ttggtaatgt gacatcacaa
                                                                    240
                                                                    300
cactqccttt aaqqtqccat atctaaatcc aggtagcact gctgctagca gaatctgttg
                                                                    360
ttttaggaga caagggtggg ctgggtatgc tggctcgtgc ctataattcc agcactttga
gagggcaagg caggagaacc acattaggct aggagtttan gaccagcctg ggcaacatag
                                                                    420
                                                                    467
tgagatccca tctctacaaa aataaaaaaa ttagctttcc agctgct
```

<210> 125

<211> 833

<212> DNA

```
<213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(833)
       <223> n = A, T, C or G
       <400> 125
gnnnnnnnn ngnnttnnnn ntttaataga tgagcgtacg gngcctgtaa agcatgctcq
                                                                           60
ageggeegee atgtgatgga tatetgeaga attegeeett agegtggteg eggeegaggt
                                                                          120
acctgatate gtttaacttt cetetttate tttettagag atactteaca tgtgggacag
                                                                          180
attatatttt ggaaagatgt ccacaacaat attgcccatc ccacattgct catcttacaa
                                                                          240
tgtgatetea agacteetee caetgagtgg gtgagaaggg acttatacea ettteatttg
                                                                          300
aatctaggca gatctgtgtg acagccttga ccaatagagt atggttaaag tgatgcccc
                                                                          360
aggeatggtg geceatacet ggaateetgg ttttteeggg aggeeeaggt gggggtagag
                                                                          420
gtgaggggga tgattgtttg aacacacgag tttgagacta ccctgagcaa cacaatgaga ccctatttt ttttaatgat ttctgaagca gaatcacaaa tagccgtgcg ttttttttt
                                                                          480
                                                                          540
gegettttag gataettaet tttaaaaccc agteaccata ttgttaggaa geccaaacag
                                                                          600
cacacataga gagacatacg gagaagccaa ccatagaggt tcctgttgac agctcantcg
                                                                          660
aggtettaae caacagteat aettagetge cagecatatg agtgaaggge ttneagatga
                                                                          720
ttctaacgcc cagcagttgg gtccccccag cctgtaagcc ttcccagctg aggcctnaca
                                                                          780
atgatggage anagaaaagt gteeetgtee aaattetgae ceatgataaa atg
                                                                          833
      <210> 126
      <211> 788
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (788)
      <223> n = A, T, C or G
      <400> 126
nnnnnnntnn nnacanttga ctgataccca acttggtacc gactcggatc cactagtaac
                                                                           60
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac gcgggggatc
                                                                          120
agagagaage gaggtteteg ttetgaggga caggetegag ateggetgaa gagaqeqgge
                                                                          180
ccaggetetg tgaggaggea agggaggtga gaacettget etcagagggt gaetcaagte
                                                                          240
aacacaggga accectettt tetacagaca cagtgggteg caggatetga caagagteca
                                                                          300
ggttctcagg ggacagggag agcaagaggt caagagctgt gggacaccac agagcagcac
                                                                          360
tgaaggagaa gacctgcctg tgggtcccca tcgcccaagt cctgcccaca ctcccacctg
                                                                          420
ctaccetgat cagagicate atgeetegag etecaaageg teagegetge atgeetgaag
                                                                          480
aagatettea ateccaaagt gagacacagg geetegaggg tgeacagget eccetggetg
                                                                          540
tggaggagga tgcttcatca tccactttca ccagctcctc ttttccatcc tcttttcctt
                                                                          600
etecttentt ttetnetnet netnetgeat etntaatace aageacecea naggaggttt
                                                                          660
ctgctgatga tgagacaccc aaatnettee anagtgetna anatageetq ntnetteece
                                                                          720
cttnggncnt gettteeett nenttanatt naatnetgat taaggggtte cancanneca
                                                                          780
aaaggaat
                                                                          788
      <210> 127
      <211> 766
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(766)
      \langle 223 \rangle n = A,T,C or G
      <400> 127
gggcctctna agcatgctcg acggccgcca tgtgatggat atctgcaqaa ttcqcccttt
                                                                          60
```

egageggeeg eeegggeagg taeteeaggt agtttteetg caeceaatet tgggtgagea

```
180
gtgcttccca gatgacctcc tcaggggtgc agtagccctc tatgaagatt atgcttagga
                                                                        240
taagtatgag aatgccagtc ttgggcatgc tctggacatc actcagcatc ccatcatagg
                                                                        300
tgaggcccag ggaggtgaca aggacaaagg agtggccagt gggatccact tcctttacat
                                                                        360
caatgccaaa gaccagcagc atgcactcgg aggcttcact aaacaacaaa gggaagtggt cttcataatt ttttatgaca ctctccagta tttctgcctt tgtgatcggc tccttcattt
                                                                        420
                                                                        480
gatacttgaa gagcagaaac tgcaccaaat cagtcacctt ttcatctatc tcacttctgg
                                                                        540
gtaaagactc actgtctggc aggacctgta gggtgcttgg actctcctcc ttttggctgc
                                                                        600
tggagccctc atcagattga tctaatggaa gggaagcaac gaccganggg gaggagcagg
                                                                        660
ctatctgagc actctgggga ggatttggtg tctcatcatc agcagaaacc tnctctgggg
                                                                        720
tgcttgggta ttagangatg gcaggaagaa gaagangaag aggaag
                                                                        766
      <210> 128
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(779)
      <223> n = A, T, C or G
      <400> 128
gnnnnntnnn nacactantt tnngacccgn canctggtac cgactcggac cactagtaac
                                                                         60
ggccgccagt gtgctggaat tcgccctttc gagcggcccg cccgggcagg tactcctcat
                                                                        120
cctgcgtttg gtctccaggt gtcgcctttc tgccgtgttc ctaatatttt gattcctgtc
                                                                        180
ttgaaaaaag cacctgctgc acagtaagcc cagggatgtg gcagctgcag cgggcttggc
                                                                        240
tttgtgagga accgggtgtg tccacgttgg gggaacatca tacttgatac acacgttttt
                                                                        300
attigcacaa agaaaatgct attittiggag ccagaattit catgtitgat ttatiggtigat
                                                                        360
tttcttaaga accagaactg ctggcagaaa gggggcaccc acacgcttag atagccgatg
                                                                        420
tottattaga gggcagtttg tggttoctga tttggaaatt aatattotoc aaacattoca
                                                                        480
gtccaatgaa agttttatcc gctttcccat gtaaaaattc ttcccatgag agtgacttga
                                                                        540
tecteacaat ecegitigaag tegigitiga gitectacagit attaggitica geattigeegi
                                                                        600
ctncaagtgc tetttgtagg gaaacagttt etggteatga caagetteca ettecatetg
                                                                        660
atcctggcct ggcctggaaa cagagcacat gtgtttgagg atggcngtgt ttggggacag
                                                                        720
gacatgancg tattgtgtgg ggctgctagg acangcgtgg tgtggtgggg gantgtccn
                                                                        779
      <210> 129
      <211> 774
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(774)
      <223> n = A, T, C \text{ or } G
      <400> 129
ttnnnantgg gcccntngag catgctcgac ggccgccatg tgatggatat ctgcagaatt
                                                                        60
cgcccttagc gtggtcgcgg ccgaggtacc tgggtgggac tgggaaactg tgaaacaagt
                                                                        120
agactgactt ggacactccc ccaccacacc acgcctgtcc tagcagcccc acacaatacg
                                                                        180
ctcatgtcct gtccccaaac accgccatcc tcaaacacat gtgctctgtt tccaggccag
                                                                        240
gccaggatca gatgggaagt ggaagcttgt catgaccaga aactgtttcc ctacaaagag
                                                                        300
cacttggaga cggcaatgct gaacctaata ctgtaggact cacacacgac ttcaacggga
                                                                        360
ttgtgaggat caagtcactc tcatgggaag aatttttaca tgggaaagcg gataaaactt
                                                                       420
tcattggact ggaatgtttg gagaatatta atttccaaat caggaaccac aaactgccct
                                                                       480
ctaataagac ateggetate taagegtgtg ggtgeeceet ttetgeeage agttetggtt
                                                                       540
cttaagaaaa tcaccataaa tcagacatga aaattctggc tccaaaaata gcattttctt
                                                                       600
tgtgcaaata aaaacgtgtg tatcaagtat gatgttcccc caacgtggac acaccccggt
                                                                       660
tectnacaaa gecaageeg etgeagetge cacatteetg ggettaetgt geacangtge
                                                                       720
tttttttaag acaggatcaa atnttaggac cengnanaan geaacacetg gaga
                                                                       774
```

```
<210> 130
       <211> 803
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(803)
       <223> n = A, T, C \text{ or } G
       <400> 130
ggnnnnttnn anacgnatch gacctganta cgccaacttg gtaccgagct cggatccact
                                                                            60
agtaacggcc cgccagtgtg ctggaattcg cccttagcgt ggtcgcggcc cgaggtacct
                                                                           120
tggaagttat gtcattaata taggctggtt cgtcaaataa agcaaaacct tgcaatatca
                                                                           180
gctagattta cactccggga cgttgcccaa aggtaggaag aaagcagagg gaaatatttc
                                                                           240
agtcatcatt tccaaagtca ttatcaaaat ctgtgaggaa gtttaatctt ccaaagagtc
                                                                           300
aatgtcagac atcaggcctc tgttgcctgc ttctctcgag gcactagatt aggagtcttc aataagagac ttaacatgag gtatatggaa gatgaggcac cgagataagt tcatcattag
                                                                           360
                                                                           420
gtgtgagcac tgctcaccct tgctggcaag ttctccttaa gggcctgaag cacaggtgtc
                                                                           480
Caaagaaaag cgttaagtcc atcttaatag aatctatgtg gtatatgatg tgqtcagccc
                                                                           540
ccggtctgtg atcagcaaga acctacagca cagattatgc cctgcccact tcaatgaata
                                                                           600
cetactetee theattetee ateaettttt ttgetateaa gaeteeggae ettgeecatg
                                                                           660
gagaagttta gagaggaact cttgtggaga gctggtttat tttctgccct gtgcgacgag
                                                                           720
tttcagcttg gccaaagaaa ggagtcaagg ttattaaaaa gcatcacaat ggtagatctt
                                                                          780
ccaggettgg ntttttttgt ttt
      <210> 131
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(818)
      <223> n = A, T, C or G
      <400> 131
antgggcctc tnnagcatgc tcgacggccg ccatgtgatg gatatctgca gaattcgccc
                                                                           60
ttngcccgct ttccagncgg gaaacctgtc ntgccagntg cattaatgaa tcngccaacg
                                                                          120
egeggngaga ggeggnttge gtattgggeg etetteeget teetegetea etgaeteget
                                                                          180
gegeteggee gttengetge ggegageggt ateageteae teaaaggegg taataengtt
                                                                          240
atccacagat caggggatan cggcaggaaa gaacatgtga ncaaaaggcc agcaaaaggc
                                                                          300
caggaaccga aaaaaggccg ctttgttggc gtntnaccat aggctcnncc cccttgacna
                                                                          360
getteacaaa aatetaeget cagnteecag gtgenaaate ceganaggae tntaangatt
                                                                          420
ennggnnttt ccccctgaan netnectant gegeteteet gtnecaacet tgeegtttae
                                                                          480
cggatacetg neegectnna tneettegng aagentgget tttnaatngg etcaettttt
                                                                          540
gggnatctaa aancggnnta ggcngnncgt tnnaaantng nntttttgcn caaacccct
                                                                          600
gtttaaactn acccatgngc attatcccgg aaacttttgg tnttngaatc caaccngqna
                                                                          660
aanacacnan ttaatnngcc nttggcntga aacccacttg ggtnaaccat ggattttggc
                                                                          720
ncnacenagg gtnnttttnn nggenggtne ntaceeggag ttetttnaaa aengggtggg
                                                                          780
cncttanacc tatenggnnt teceetttan aaaaaaat
                                                                          818
      <210> 132
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
      <223> n = A, T, C \text{ or } G
```

```
<400> 132
acnntatgac ntgantaccc aacttggtac cgactcggac cactagtaac ggccgccagt
                                                                         60
gtgctggaat tcgcccttcg gcccgcccgg gcaggtacct ggaaaataac ttctttcttt tcctctagat tttcgaagaa gcaaataaat caagaataga aacctatata taggaggttg
                                                                        120
                                                                        180
ggcctcctgc aaagaatgaa gcactttttg ttaaatacag gagaggctac ttggctgcac
                                                                        240
taatatgtgc tttttggaat cttatagagt gtcaccaagt tgaactttgg aatggcttga
                                                                        300
atcatecetg gageatetgt geegggeagt caggagtgag tgeacegeet eccaeceage
                                                                        360
cccattgggc ctcacaccct cttcattcct ttccccatga ggcaggcaaa cacggtcatg
                                                                        420
accattttgg ggttcacttc aaccaggtct tctggcaggg catacactct tgctccaatt
                                                                        480
tttcgggcca tagagatggc atattttgca ttgttgagtt tctcatcatc attcagattt
                                                                        540
tetgtettea gaaggteata gttaatggaa eetggttgga tggeategat gangteeaga
                                                                        600
acaggcagac ttgtacctcg gccgcgacca cgctaagggc gaattctgca gatatncatc
                                                                        660
acactggcgg gccgntcgag catgcatcta ganggcccaa ttcgccctat agtgagtcgt
                                                                        720
attacaattc actgggccgt cgttttacaa cgtcgtgact gggaaaaccc tgcgttn
                                                                        777
      <210> 133
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(775)
      _{1}<223> n = A,T,C or G
      <400> 133
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                        60
tagcgtggtc gcggccgagg tacaagtctg cctgttctgg acctcatcga tgccatccaa
                                                                        120
ccaggttcca ttaactatga ccttctgaag acagaaaatc tgaatgatga tgagaaactc
                                                                        180
aacaatgcaa aatatgccat ctctatggcc cgaaaaattg gagcaagagt gtatgccctg
                                                                        240
ccagaagacc tggttgaagt gaaccccaaa atggtcatga ccgtgtttgc ctgcctcatg
                                                                        300
gggaaaggaa tgaagaggt gtgaggccca atggggctgg gtggaggcg gtgcactcac
                                                                        360
tectgaetge eeggcacaga tgetecaggg atgatteaag ceattecaaa gtteaacttg
                                                                       420
gtgacactct ataagattcc aaaaagcaca tattagtgca gccaagtagc ctctcctgta
                                                                       480
tttaacaaaa agtgcttcat tctttgcagg aggcccaacc tnctatatat aggtttctat
                                                                       540
tettgattta tttgettett egaaaateta gaggaaaaga aagaagttat ttteeaggta
                                                                       600
ectgeceggg eggeegaang gegaatteea geacactgge ggeegttact agtggateeg
                                                                       660
ageteggtae caagettgge gtaatcatgg teatagetgt tteetgtgtg aaattgntat
                                                                       720
coggtcacaa ttcccacaca tacgaacccg gaagcataaa gtgtaaagcc tgggg
                                                                       775
      <210> 134
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      <223> n = A.T.C or G
      <400> 134
acnnttgacc tgatacccag ctggtccgac tcggacccta gtaacggccg ccatgtgctg
                                                                        60
gaattegeee ttgageggee geeggggeag gtetataagt etttaaattg ggtegtgttt
                                                                       120
ttagcaggta agactaattt atctcttctc cagtgaattg atgctggtgg gattcgattt
                                                                       180
240
atataaactt gggggcatat tcaatatcaa ggtacttttt ttttttttt aagttttagt
                                                                       300
tcagaataac attaattttg agagattgag gtaaagaacc ttaactaatg ctaaggagtt
                                                                       360
tattttgatt aacataggtt attctgacca ccacctcttc cttccttaat ctccttagaa
                                                                       420
tetgacagte teaaagetgt cacacaaatt agaetaattt tgacaetttg aaatgaaaae
                                                                       480
ttcaaggaag aagtagccac ggacagttat gtttataatc agtaggtggc actctttcct
                                                                       540
caggtagece eccattttea catgatgtgt ttgaaggtta aatgeeccaa aagtgetgag
                                                                       600
tcagctataa aactaagtcc ctgaattcca tggccctttt aaatatgtaa tcattcaaga
                                                                       660
```

```
ttgaaaaaa aaattaagca ttttttgntt gnttgcttgg ttggttttga gacngagttt
                                                                           720
 cactettgnt ggccaggetg gagtgcaatg gegecatetn acteaetgna ag
                                                                           772
       <210> 135
       <211> 784
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc feature
       <222> (1)...(784)
       <223> n = A,T,C or G
       <400> 135
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                            60
tagcgtggtc gcggcccgag gtacttcttt tgaataattc agtattttaa aaatgcaagc
                                                                           120
caggcacagt ggctcacgcc tgtaatccag cactttggaa ggccgaggtg gggggatcac
                                                                           180
gaggtcagga gttcaagacc agcctggcca acatggtgaa acctcatctc tactaaaaat
                                                                           240
acaaaaacta gctgggcatg gtggcgggca cctgtaaccc cagctacttg gagggctgaa
                                                                           300
ggagaattgc ttgaatccgg gaggcagagg ttgcagtgag ctgagatggc gccattgcac
                                                                           360
tccagcctgg ccaacaagag tgaaactccg tctcaaaaac aaacaagcaa acaaacaaaa
                                                                           420
aatgettaat tttttttte aatettgaat gattacatat ttaaaaggge catggaatte agggaettag ttttataget gacteageae ttttggtgge atttaacett caaacacate
                                                                           480
                                                                           540
atgtgaaaat ggggggctac ctgaggaaag agtgccacct actgattata aacataactg
                                                                          600
teegtggeta ettetteett gaagttttea ttteaaagtg teaaaattag tetaatttgt
                                                                          660
gtgacagett tgagactgte agattetaag gagattaaag gaanggaaga ggtggtggte
                                                                          720
agaataacct atgitaatca aaaataaact teettageat taagttaang gtetttaeet
                                                                          780
caan
                                                                          784
      <210> 136
      <211> 768
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (768)
      \langle 223 \rangle n = A,T,C or G
      <400> 136
achttgantg nacccacttg teegactegg atecetagta aeggegeagt gtgetggaat
                                                                           60
tegecettig ageggeegee gggeaggtae tittitit ettititae atetgattit
                                                                          120
aatgettegt taaetteaaa agggaaetgg gtagagttea gaaggtgage tgttgtttt
                                                                          180
ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct ttttcctcat
                                                                          240
tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat ctcaccccat
                                                                          300
attggtctta aataagtata gactaattaa cctaagctac ctttaacaac gtagaattta
                                                                          360
gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac tttttcccc
                                                                          420
acctetgeeg eccaggetag agtatagtgg tgtgatettg geceaetgea acctetgett
                                                                          480
cctaggttca agtgattctc ctgcctcagc ctcccaagta gctgggattg taagagtatg
                                                                          540
ccaccacgcc cagctacttt ttgtattttt agtagagaca gggtttcatc atgttggcca
                                                                          600
ggatggtctc ttaactcctg ccctcaagtg atccaccaga gaggagatcc tcggccttcc
                                                                          660
caagtgctgg gattataggc atgagccacc gtacccagcc tactttctaa ttaattaaaa
                                                                          720
aaaaannnnn nnnnaaaaaa acttnccaaa tgactgataa aaaactgc
                                                                          768
      <210> 137
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
```

<223> n = A, T, C or G

```
<400> 137
ttgggcctct ngagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                           60
tagegtggte geggeegagg taccatgetg acttettggt atetttaag geetaatttt
                                                                          120
cccttccttg agattactgt agtgtgttcc agctaatttc tatttggaaa cgagttggaa
                                                                          180
cagetgaaaa ctaggtatta ttgaaggcaa agtageetea egteagtttt ttateagete
                                                                          240
atttgggaag ttttttttt tttttttt ttttttaatt aattagaaag taggctgggt
                                                                          300
acggtggctc atgcctataa tcccagcact tggggaggcc gaggatctcc tctctggtgg
                                                                          360
atcacttgag ggcaggagtt aagagaccat cctggccaac atgatgaaac cctgtctcta
                                                                          420
ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca gctacttggg
                                                                          480
aggetgagge aggagaatea ettgaaceta ggaageagag gttgeagtgg geeaaqatea
                                                                          540
caccactata ctctagcctg ggcggcagag gtggggaaaa aagtaggacc cctgtcctat
                                                                          600
attcaggttt ttctcacata tatgaaccca tctaaattct acgttgttaa aggtagctta
                                                                          660
ngttaattag totatactta tttaagacca atatggggtg agatggattt tttttaaaa
                                                                          720
atcctacant aaggetttet acttteette taatgaggaa aaaagtggea aaaattt
                                                                          777
      <210> 138
      <211> 950
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(950)
      <223> n = A, T, C \text{ or } G
      <400> 138
nnnnnnnnn nnnnnnnnn nttnnnnnn nnnnnaaanc cnnnnnttna nnngnnaaac
                                                                          60
cccattggna aanttaaccn ncccccaaaa gccctttngg ggtttaaccc ccgaaagcct
                                                                         120
tccgggggna atccccaact ttaagttaaa acnggggccc cgggcccaag ttggttggcc
                                                                         180
tttgggggaa aatttccgcc ccctttccga agccgggccc ggccccgggg gccaagggta ccatgggaat ggttaccttt tggcaagaac tggtcaaacc ctggaaattt tggtattttt
                                                                         240
                                                                         300
gctttggaca ttggccctaa attaattaag tttcaaggtg gtcaggcttt acccactttt
                                                                         360
tggtctggca acatgcagaa gagacagtgc cctttttagt gtatcatatc aggaatcatc
                                                                         420
tcacattggt ttgtgccatt actggtgcag tgactttcag ccacttgggt aaggtggagt
                                                                         480
tggccatatg tetecactge aaaattgetg atttteettt tgtaattaat aagtgtgtgt
                                                                         540
gaagattott tgagatgagg tatatatoto actottoato aaactataag ttittttaag
                                                                         600
taaaagaaaa tttattatga aactaaagga ataaaagaat gaccactcca taggcagaga
                                                                         660
aacgtcactt taaggttttg acgtcaattg atttttgtcc aaatcaataa ttactqcaat
                                                                         720
gattgaaaaa tgattattac taagtttgtt ttcattgtct caaggtctgc tgaactctgg
                                                                         780
atccaggetg tgtcaacagg gtagtgtggt geeteetgta eeteggeege gaecaegeta
                                                                         840
agggcgaatt ctgcagatat ccatcacact ggcggccgtt cgagcatgca tctagagggc
                                                                         900
ccaattcgcc tatagtgagt cgtattacaa ttcactggcc cgcgttttag
                                                                         950
      <210> 139
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(779)
      <223> n = A, T, C \text{ or } G
      <400> 139
ttgggcccnt agagetgete gageggeege catgtgatgg atatetgeag aatteqeeet
                                                                          60
tagcgtggtc gcggccgagg tacaggaggc accacactac cctgttgaca cagcctggat
                                                                         120
ccagagttca gcagaccttg agacaatgaa aacaaactta gtaataatca tttttcaatc
                                                                         180
attgcagtaa ttattgattt ggacaaaaat caattgacgt caaaacctta aagtgacgtt
                                                                         240
tototgocta tggagtggtc attottttat tootttagtt toataataaa ttttotttta
                                                                         300
cttaaaaaaa cttatagttt gatgaagagt gagatatata cctcatctca aagaatcttc
                                                                         360
```

```
acacacatt attaattaca aaaggaaaat cagcaatttt gcagtggaga catatggcca
                                                                          420
actccacctt acccaagtgg ctgaaagtca ctgcaccagt aatggcacaa accaatgtga
                                                                          480
gatgatteet gatatgatae actaaaaagg geaetgtete ttetgeatgt tgeagacaaa
                                                                          540
aaqtqqqtaa qctqacactq aaactaataa ttaggcaatg tcaagcaaat acaaattcag
                                                                          600
gttgacagtc tgcaaagtaa catccatgta cctgcccggg cngnccgctc gaagggcgaa
                                                                          660
ttccagcaca ctggcggccg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat
                                                                         720
catgggcata gctggttcct gtgtgaaatt ggtatneget cacaattnec acaacatag
                                                                          779
      <210> 140
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (779)
      <223> n = A, T, C \text{ or } G
      <400> 140
qcccntaqaq catqctcqac qqccqccaqt gtgatggata tctgcagaat tcgcccttag
                                                                          60
cgtggtcgcg gccgaggtac caggtgggct gacgcacatc ccctaaacat tctggatctc
                                                                         120
ttactcateg tgaaaggcag acgetetaag tetaaagtet agggtaggag tttecattet
                                                                         180
ttggaaaacc aaagatggtt actcttctta atgaaactga gaagaaggta tctacagaaa
                                                                         240
acactgaatt taaacaaatt atgaccttgt ttgttgaagc catcaaggac ccaagatata
                                                                         300
tcaaagaaca acatctctgt attggcctac aggttcagag tgttttgagg tctgtttaag
                                                                         360
cactaatagg attttaggcc agcatccagt cagaagagat agttcacaga ctcagagttg
                                                                         420
gaaacagatt aaaaaaaaa agatgtcaac atagaaaatg atgatagagt ttagttaaaa
                                                                         480
aaattcacac ataaaattac agttaaaaaa attcacacat aaaatagagt gtttgcatag
                                                                         540
caagacatta ttgcccttca gcctggcaga aaaacataaa ctcaggtgta tattttataa
                                                                         600
taaacattgt attgaatgct aagaatgata cactgttgaa catctcctga atggtttgcc
                                                                         660
ttcttgtaaa tcataccaat tgtttagaca attgaaattc caagctcttt ctcttctccc
                                                                         720
atataaaaac caacagaaac anggaggctg ttagtagcaa gctcctcatg ggaaanggt
                                                                         779
      <210> 141
      <211> 986
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(986)
      <223> n = A.T.C or G
      <400> 141
aanccnnnnn ntttatttgg gnaaacccaa ttgggnaaaa ttnaacccgn cccccnaaa
                                                                          60
ngcccttttn gggggttnaa cccccggaa aaccctttcc ggggggaaat tccccaacct
                                                                         120
ttaaagnttt aaaaaccegg gggccceggg cccccaaagt ttgggttggc cnttggggga
                                                                         180
aaaatttttt ccgggcccc cnttttaaag cccggttggg gtttccggcc ngggggccc
                                                                         240
gggaaagggt tnaccetttt ttttttaact tttttnnntt teetttttn ntteetttt
                                                                         300
tttcttttt tttttctttg gtntnnnttt ttttttcaat tttttggttt ttggtttttg
                                                                         360
gttatggttt ttttagaaca ggggtcccac tctgtcaccc aggctggagt gcagtggtgc
                                                                         420
aatcacaggt cactgaaacc teccacetag etgggactag aggtgeagge caccacca
                                                                         480
gctaatttat gtaatttttg tagagacgag tttcaccacg ttacctaggc ttgtcttgaa
                                                                         540
cacctgggct caagcaatct tccagcccca gcctcccaaa gtgctgggat tacaggtata
                                                                         600
aaccacaatg cccccgtttt tactctttac tgcatccttc ccatcagtat taattcctca
                                                                         660
gaaatttagt acccctgtgc ttcattcagt atcagtaacc ctgcaatgat ttttacaaat
                                                                         720
atctttttct agtgggtttt ttacttagag gaaagaactt tgtaatagct cttaatgttt atatataaga gaagacagaa tggaaaatgt tttttgaagt caaatattgc atgatgtaaa
                                                                         780
                                                                         840
gaaaaaactt taaacttaaa tgagtanggt tgtcctgaat tacactggta actctctact
                                                                         900
tctttattaa agaagttata gtaagatgcc tttggntacc tgatttcagt gtacctgccc
                                                                         960
                                                                         986
gggccggccg ntcaaaaggg cgaant
```

```
<210> 142
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(780)
      <223> n = A,T,C or G
      <400> 142
gggcccgtan agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcqccctt
                                                                         60
tegageggee geeegggeag gtacaetgaa atcaggtaac aaaggeatet tactataact
                                                                        120
tetttaataa agaagtagag agttaccagt gtaattcagg acaacctact catttaagtt
                                                                        180
taaagttttt totttacato atgoaatatt tgacttcaaa aaacatttto cattotgtot
                                                                        240
totottatat ataaacatta agagotatta caaagttott toototaagt aaaaaaccca
                                                                        300
ctagaaaaag atatttgtaa aaatcattgc agggttactg atactgaatg aagcacaggg
                                                                        360
gtactaaatt tctgaggaat taatactgat gggaaggatg cagtaaagag taaaaacggg
                                                                        420
ggcattgtgg tttatacctg taatcccagc actttgggag gctggggctg gaagattgct
                                                                        480
tgagcccagg tgttcaagac aagcctaggt aacgtggtga aactcgtctc tacaaaaatt
                                                                        540
cataaattag ctggtgtggt ggcctgcacc tctagtccca gctaggtggg aggtttcagt
                                                                        600
gacctgtgat tgcaccactg cactccagcc tgggtgacag agtgggaccc tgtctaaaaa
                                                                        660
aaacataaca naacanaacn naatgaaaaa aaaaacaaga aaaaagaata gaaaaagaaa
                                                                        720
aaagtnaaaa gtneeteggn egegaeeaeg etaagggega atteeageae aetgeggeen
                                                                        780
      <210> 143
      <211> 794
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (794)
      <223> n = A,T,C or G
      <400> 143
nnnnnnnnn nnnacnnttg actgataccc aacttggtac cgactcggac cactagtaac
                                                                         60
ggccgccagt gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acagaaagaa
                                                                        120
gagccaggat attetttgtt tteetaageg tagetgtgag caacattate teteetaetg
                                                                        180
gcttctttga ggtatgagag tcatcattac atctgtgtgc tttgtcaagt tatatgtcac
                                                                        240
aattccacct gtgggtagag aacaagcaca agagtcacat caactgtgtg ctgggccagg
                                                                        300
gttatgtcac aatcttccct gagagcatgc accaggcaga agagtcacat cacagggttc
                                                                        360
tcaaccagag atgttacaat cctctcctga aagcaggaca caggaaaaag agtaagatca
                                                                        420
cctgcatgct gggctcagat atatgtcaca agactcactg tgggcaaagt ccagaaggac
                                                                        480
agacagaaca gctggttgct tgacccagca atatgtcaca atcttctcta tqqqcaqaat
                                                                        540
gcaggcagaa gtagagggct tcatcttcca ggtgatggat taaaaaaata catcccaagg
                                                                        600
etetetgtgg gaaagggete angeagaaac tttccaacce ctangtgttt getteagtga
                                                                        660
tatgtcacaa ttaaccaaaa tatgcaggtt tcaagcaagt gagtnaagtc atatcaccta
                                                                        720
nggtgettgg tecanaaate tgneacaate ttttttttt ttttggeatg eecagengaa
                                                                        780
ttgaaaagtc ncan
                                                                        794
      <210> 144
      <211> 782
      <212> DNA
      <213> Homo Sapien
      <221> misc feature
      <222> (1)...(782)
     <223> n = A, T, C \text{ or } G
     <400> 144
```

```
cnanngggcc cntagagcat gctcgacggc cgccagtgtg atggatatct gcagaattcg
                                                                        60
cccttagcgt ggtcgcggcc gaggtacaat cttggctcac tgcaacctcc acctcccggg
                                                                       120
ttcaagcaat tctcctggct cagcctcctg agtgctggga ctacaggcat gcaccaccac
                                                                       180
tcccacctaa ttttgtattt ttgatagaga cggggcttct ccatgttggt caggctqttc
                                                                       240
tcaaactcct gacctcaggt gatttgactg tcttagcctc ccacagtgct gagcttatag
                                                                       300
gcaggtgcca cgacacctgg ctggaatcat ttatttcaac atatctctgg gtccaacaac
                                                                       360
atggtgatgc aactttcctg catgggccct cccacagaaa tactctaata catctttca
                                                                       420
480
aagattgtga cagatttctg gaccaagcac ctaggtgata tgactttact cacttgcctq
                                                                       540
aaacctgcat attttggtta ttgtgacata tcactgaagc aaacacctag gggttggaaa
                                                                       600
gtttctgcct gagcccttcc acagagagcc ttgggatgta tttttttaat ccatcacctg
                                                                       660
ggagatgaaa ccctctactt ttgcctgcat tctgcccata gagaagattg tgacatattq
                                                                       720
ctgggtcaag caacccagct ggtctgctgt ccttntggac tttgcccaca agtgagtttt
                                                                       780
                                                                      782
      <210> 145
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(780)
      \langle 223 \rangle n = A,T,C or G
      <400> 145
annnttgacc tgatacccag cttggtaccg agctcggatc cactagtaac ggccgccagt
                                                                       60
gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acttttttta cttttttt
                                                                      120
ctttttttt ttggacatct gttttcactc ttaggctttt aaacaatagt tattgctttt
                                                                      180
atcoctctca gattctaata actgagagcg atggggctat attgaatctc tgtatgcact
                                                                      240
gagaactgag ctatgaagag gatcttatta aactgctggt ctgactttat ggattgacac
                                                                      300
tgttcctttc ttttattgtg aaaaaaaaaa aaaaccctga aagtcttggg aaccccctaa
                                                                      360
agtettttgg gaateeteaa aaageatggg aagttaagta tttagetaea taaatgttgt
                                                                      420
aagatcatat ettatgtata gaagtaataa gaccatttgg aattactgga etaattgaat
                                                                      480
agttaagggt tetatteggg acaataaaat gtattttgaa agtgetgeta actattgatg
                                                                      540
ctgacagtgt ttcactccta tgagtgaccc aaacatatta taaatatgtg gtaaagggaa
                                                                      600
tggagcctgt ggggttgagc agaatgttgg acttttttt tnnnnnnnn nttttttngc
                                                                      660
ttnctattng atngataacg atttenggat tneetttaaa nnenengang gtttggaaac
                                                                      720
tttggactgg attctggttc ccngaaacag gttcactggg nnccggggga cacttttaan
                                                                      780
      <210> 146
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(778)
      \langle 223 \rangle n = A,T,C or G
      <400> 146
ttgggcccnt agagcatgct cgacggccgc catgtgatgg atatctgcag aattcqccct
                                                                       60
tagcgtggtc gcggccgagg tacatggagg cctggactgt aaagagacta cqqaaqqqc
                                                                      120
agcatgtgtg ttttgcttct cagattcatt gtcactcacg ttgcataaag tcctcagttg
                                                                      180
tttttaagta attgttttac tatggatata ttaaacatac agaataaaaa agggaataaa
                                                                      240
catacaattt ggcaaacccc ctactgagcc tttaaaaaata ttagaaggtt ggtattaaac
                                                                      300
caggtaactt acggatttgg aaaaaaaaaa aaaaagaaag cattgaatat ggctgggcgg
                                                                      360
ttototgggg atcottgggc agacccagtt tgccccgatt tctcactgta gttttcaaqa
                                                                      420
ataactgtag gaggcggtgg gagtgcagca tcctgagata agggagacga gccagaacag
                                                                      480
egegggeact gttecagece cectagaaat gggttgatet teagtgette ageteagtgt
                                                                      540
gtcatgcttc acccacgatg taaaagccta ggatcggagg cttccccaqq qttcqtcaqc
                                                                      600
tgtggcacaa tagggcccgt tgcaaataag attctattcc tgtcagacag tttcgtgagt
                                                                      660
```

```
ttgtggggga acactcaccc tagcttctgn tgnctcttca tgcctgtgtg ttcctaatca
                                                                        720
acttttttgn gtaacttggt gttttgaaag tgtcaccagc acacaatgga acctgtcn
                                                                        778
      <210> 147
      <211> 784
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (784)
      <223> n = A,T,C or G
      <400> 147
acnntatqac ctqattacqc caacttggta ccgactcgga ccactagtaa cggccgccag
                                                                         60
tqtqctqqaa ttcqcccttt cqaqcqgccg cccgggcagg tactttttt tttttttt
                                                                        120
tttttttttg ggattgaatc aacatgcttt aataggaaaa gatgtatggg ctatatatgn
                                                                        180
atcaatctgg ngaancetcg ntctaataaa gggtettttt ettttetatg atacacacag
                                                                        240
ncacgetgat aatatgenaa tgaacatttt cetttatgne tetneanata atggttattg
                                                                        300
gctgaggnaa attaaattcc caccanggnt tgctgncagt attttaacac ccacattagt
                                                                        360
atatgentne agggteataa eccectaaaa tecatnatge aacettatta atetggettg
                                                                        420
ggantcongg ttaatgcttg gatttanttc ctgattacac tnontngaaa agtgagacat
                                                                        480
ttgncattcc caactttggg aaaaccaact tatattcaac cntntnaatg aaggccatct
                                                                        540
tgatggnctc aacactaatt tttatgatgc aaatttatac acngattttt gtaaagggca
                                                                        600
aagtittaaa agcgtattta acttgatggt ttctatcagc attaatnaaa tggncatgaa
                                                                        660
taggcattaa aaacagttgc cagtgatnat ctgcatgaaa ggaaaaagaa ccctgcaaat
                                                                        720
ggctattgaa nttggaaata ttggntttga natgtaagaa aatntttaga aagctcncnc
                                                                        780
                                                                        784
tgng
      <210> 148
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(775)
      <223> n = A,T,C or G
      <400> 148
gggcccntan agcatgctcg acggccgcca gtgtgatgga tatctgcaga attcgccctt
                                                                         60
agegtggteg eggeegaggt acaaageact gtttaaaace agteeaagat acttaateea
                                                                        120
                                                                        180
aactgtatca tgattcttca ttagaaatct agacaccact catggtggtt tcttacactt
                                                                        240
taaaaagttg aggcattttc agtgtgagca ttctgaatat ctcttacata tcaaaaacaa
tacttccaac tcaatagcca tttgcagggt tctttttcct tcatgcagat tatcactggc
                                                                        300
aactgttttt aatgactatt catgaccatt ttatttatgc tgatagaaaa catcaagtta
                                                                       360
aatacgcttt taaaactttg tcctttacaa aaatcagtgt ataaatttgc atcataaaaa
                                                                       420
ttagtgttqa gaccatcaag atggccttca tttatatggt tgtatattag ttggttttcc
                                                                        480
cagagttggg aatggcagat gtctcacttt tctatgtagt gtaatcagga aataaatcca
                                                                        540
agcactaaac aggaatccca agacagatta ataaggttgc atgatggatt ttagggggtt
                                                                        600
                                                                        660
atgaccetgg acgeatatac taatgtgggt gttaaaatac tgacagcaag ceetggtggg
                                                                        720
aattaattta cctcagacaa taaacattat ctggagagac ataaaggaaa atgttcattt
gcatattatc agcgtggctg ggtgtatcat agaaaaagaa aaagaacctt tttan
                                                                       775
      <210> 149
      <211> 783
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (783)
```

```
<223> n = A, T, C or G
```

```
<400> 149
acnntatgae etgataegee aagettggta eegagetegg atecaetagt aaeggeegee
                                                                         60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacccgatta aaccagagca
                                                                        120
aaaactacct tetgeaggte agggagetaa tgacatggea ttggeeaaac gtteeegeag
                                                                        180
240
tgacagaget getttggagg ccaaagtgaa ggatettete acgetggeaa aaaccaaaga
                                                                        300
cgtagaaatt ttacatttga gaaatgaact gcgagacatg cgtgcccagc tgggcattaa
                                                                        360
tgaggatcat tctgagggtg atgaaaaatc tgagaaggaa actattatgg ctcaccagcc
                                                                        420
gactgatgtg gagtccactt tattgcagtt gcaggaacag aatactgcca tccgtgaaga
                                                                        480
actcaaccag ctgaaaaatg aaaacagaat gttaaaggac aggttgaatg cattgggctt
                                                                        540
ttccctagag cagaggttag acaattctga aaaactgttt ggctatcagt ccctgagccc
                                                                        600
agaaatcacc cctggtaacc agagcgatgg aggaggaact ctgacttctt cagtggaang ctctgccct ggctcantgg gaggatctct tgagtcagga tgaaaataca ctaatggacc
                                                                        660
                                                                        720
attagcacag tacttcatgg caatttagac agtgagtgca atgaggtcta ccagcccctt
                                                                        780
                                                                        783
      <210> 150
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (771)
      <223> n = A,T,C or G
      <400> 150
gggcccntan agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                        60
cgagcggccq cccggqcagq tactgtgttg gttctcttcc atctggtgta tccqttcagt
                                                                       120
caggeaagee acggacactt cactggcatt cccqctqctc cccttccqqq aqcqctctat
                                                                       180
gctggggatg ccttccgact ctgaggagga tggtgcatcc agcgcatcat cgctcgatgt
                                                                       240
gaggggctgg tagacctcac tgcactcact gtctaaattg tccatggagt tactgtgctg
                                                                       300
atggtccatt agtgtatttt catcctgact caagagatcc tccactgagc caggggcaga
                                                                       360
gccttccact gaagaagtca gagttcctcc tccatcgctc tggttaccag gggtgatttc
                                                                       420
tgggctcagg gactgatagc caaacagttt ttcagaattg tctaacctct gctctaggga
                                                                       480
aaageecaat geatteaace tgteetttaa cattetgttt teatttttea getggttgag
                                                                       540
ttcttcacgg atggcagtat tctgttcctg caactgcaat aaagtggact ccacatcaag
                                                                       600
teggetggtg agecataata gttteettet cagattttte ateaceetea gaatgateet
                                                                       660
cattaatgcc cagctgggca cgcatgtctc gcagttcatt tctcaaatgt aaaatttcta
                                                                       720
cgtctttggt ttttggcagc gtgagaagat ccttncttgg nctcnaagen g
                                                                       771
      <210> 151
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (778)
      <223> n = A,T,C or G
      <400> 151
acnntatgac etgatacgec agettggtac egacteggat ecaetagtaa eggeegecag
                                                                        60
tgtgctggaa ttcgcccttt gagcggccgc ccgggcaggt acttttttt ttctttttt
                                                                       120
acatctgatt ttaatgcttc gttaacttca aaaggaactg gtagagttca gaaggtgagc
                                                                       180
tgttgttttt ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct
                                                                       240
ttttcctcat tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat
                                                                       300
ctcaccccat attgqtctta aataagtata qactaattaa cctaagctac ctttaacaac
                                                                       360
gtagaattta gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac
                                                                       420
```

ttttttcccc acctctgccg cccaggctag agtatagtgg tgtgatcttg gcccactgca

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```
acctetgett cetaggttea agtgattete etgeeteage eteceaagta getgggattg
                                                                           540
 taagagtatg ccaccacgcc cagctacttt ttgtattttt agtagagaca gggtttcatc
                                                                           600
 atgttggcca ggatggtctc ttaactcctg ccctcaaagt gatccaccag agaggagatc
                                                                           660
 cteggeetne ccaagtgetg ggattatagg catgageeac egtaceeage ctaetteta
                                                                           720
 attaattaaa aaaaaannnn nnnnaaaaaa aacttnccaa atgagctgat aaaaacng
                                                                           778
       <210> 152
       <211> 772
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) ... (772)
       <223> n = A, T, C or G
       <400> 152
gggcccntag agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                           60
cgtggtcgcg gccgaggtac catgctgact tcttggtatc ttttaaggcc taattttccc
                                                                          120
ttccttgaga ttactgtagt gtgttccagc taatttctat ttggaaacga gttggaacag ctgaaaacta ggtattattg aaggcaaagt agcctcacgt cagtttttta tcagctcatt
                                                                          180
                                                                          240
300
gtggctcatg cctataatcc cagcacttgg ggaggccgag gatctcctct ctggtggatc
                                                                          360
acttgagggc aggagttaag agaccatect ggccaacatg atgaaaccet gtetetaeta
                                                                          420
aaaatacaaa aagtagetgg gegtggtgge atactettae aateecaget aettgggagg
                                                                          480
ctgaggcagg agaatcactt gaacctagga agcagaggtt gcagtgggcc aagatcacac
                                                                          540
cactatactc tagcctgggc ggcagaggtg gggaaaaaag taggacccct gtcctatatt
                                                                          600
caggtttttc tcacatatat gaacccatct aaattctacg ttgttaaagg tagcttaagt
                                                                          660
taattagtct atacttattt aagaccaata tggggtgaga tggattttt tttaaaaaat
                                                                          720
cctacagtaa ggntttctac tttccttcta atgaggaaaa angnggcaaa at
                                                                          772
      <210> 153
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(780)
      \langle 223 \rangle n = A,T,C or G
acnntatgac ntgaatacgn ccaagettgg taccgagete ggatecaeta gtaacggeeg
                                                                           60
ccagtgtgct ggaattcgcc cttagcgtgg tcgcggccga ggtacttttt tttttttt
                                                                          120
tttttttttt tttagttaaa gaatgettta ttaatacaaa tacacacaaa ctetgaagca
                                                                          180
ctaagaaatt taaatatcta tgtcacagca aacaggtggc aattcaacat ccagggtcga
                                                                          240
cagaatgett gaaggagaet geaacagatt ggatteeeat ggtggagagg geatntteae aggtgaaggg gggeeeaget gaaacagett tteaagetet eteteetegt eaaggateat
                                                                          300
                                                                          360
gagaggcact ccactcaagg ggaggtgcgc aatctggtgc tcttcaggca ggtcaaaact
                                                                          420
ctcaaagtct agaggattga agggaaagaa tttttctatt tctggatagg catcatctga
                                                                          480
ggcaggaaca gagctttttg ctttaacagt cttctcagtc atctttttgg cagaaaagct
                                                                          540
tggctgtttt tgtttgaggg gtcccttggt ctttacagac ttttctgtag ctctgttgac
                                                                          600
agttcccaaa gcctttctag tagctttagg taaggctggt ggggcatcga acgttttgcc
                                                                         660
aaaacgtggt gttgaaactt gagatctccc atctaangct ttgattgaan gtccagaccc
                                                                         720
cagetteage ceateettag caaccacaen ggtgeetggg tetneatttt eettatnang
                                                                          780
      <210> 154
      <211> 770
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc feature
       <222> (1)...(770)
       <223> n = A, T, C or G
       <400> 154
quectqtnna getgetegag eggeegecat gtgatggata tetgeagaat tegeeettte
                                                                             60
gageggeege cegggeaggt acgeggggac egeggeetea gatgaatgeg getgttaaga
                                                                            120
cctgcaataa tccagaatgg ctactctgat ctatgttgat aaggaaaatg gagaaccagg
                                                                            180
caccegtgtg gttgctaagg atgggctgaa gctggggtct ggaccttcaa tcaaagcctt
                                                                            240
agatgggaga teteaagttt caacaccacg ttttggcaaa acgttegatg ceceaccage
                                                                            300
cttacctaaa gctactagaa aggctttggg aactgtcaac agagctacag aaaagtctgt
                                                                            360
aaagaccaag ggacccctca aacaaaaaca gccaagcttt tctgccaaaa agatgactga
                                                                            420
gaagactgtt aaagcaaaaa gctctgttcc tgcctcagat gatgcctatc cagaaataga
                                                                            480
aaaattottt cocttcaatc ctctagactt tgagagtttt gacctgcctg aagagcacca
                                                                            540
gattgcgcac ctccccttga gtggagtgcc tctcatgatc cttgacgagg agagagagct
                                                                            600
tgaaaagetg tttcagetgg geceeette acetgtgaag atgeeetett caecatggga
                                                                            660
atccaatctg gtgcagtctc ttcaagcatt ctgtcgaccc tggatgttga attgccacct
                                                                            720
gtttgctgtg acatagatat ttaaatttct tagtgcttca gagtttgngg
                                                                            770
      <210> 155
      <211> 767
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (767)
      <223> n = A,T,C or G
      <400> 155
acattatgac tgatacgcca gettggtacc gactcggatc cactagtaac ggccqccagt
                                                                            60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac gcgggcccgc tggataactg
                                                                            120
ccctgggaca cagcageggg aagccgcctg cagactgaac ctcactgacc caggtggaaa
                                                                           180
tegttaggte atttactget aageageeag atgaactete cetgeaggtg getgacgteg
                                                                           240
tecteateta teaacgtgte agegatgget ggtatgaggg ggaacgaeta egagatggag
                                                                            300
aaagaggctg gtttcctatg gaatgtgcca aggagataac atgtcaagct acaattgata
                                                                           360
agaatgtgga gagaatggga cgcttgctag gactggagac caacgtgtag tctctcagat ggtcttttgt tactgcaaga tttgcacgac acttaccggg ctggttggtt ctgggctagt
                                                                           420
                                                                           480
tttattgnta attttgtcac agcctattta attaaaagaa cgaaaacact tgcctttaag
                                                                           540
cttgccaggt tgttctgctc tctcatgaga agagcttgga tacagtgagt ttgcacagct
                                                                           600
cagitttiac ciaaccacac acttgcagac ctnctgaggt acctgcccgg gcggccgctc
                                                                           660
gaaanggcga attctgcaga tatccatcac acttggcggn cgctcgaaca tgcatctaga
                                                                           720
nggcccaatt cgncctatag tgagtcgtat tacaattcac tggncgc
                                                                           767
      <210> 156
      <211> 827
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(827)
      <223> n = A, T, C or G
      <400> 156
attgggcccc tagatgcatg ctcgacggcc gccagtgtga tggatatctg cagaattcgc
                                                                            60
cetttegage ggeegeeegg geaggtacet caggaggtet geaagtgtgt ggttaggtaa
                                                                           120
aaactgaget gtgcaaactc actgtateca agetettete atgagagage agaacaacet
                                                                           180
ggcaagctta aaggcaagtg ttttcgttct tttaattaaa taggctgtga caaaattaac
                                                                           240
aataaaacta gcccagaacc aaccagcccg gtaagtgtcg tgcaaatctt gcagtaacaa aagaccatct gagagactac acgttggtct ccagtcctag caagcgtccc attctctcca
                                                                           300
                                                                           360
cattettate aattgtaget tgacatgtta teteettgge acattecata ggaaaccage
                                                                           420
```

```
ctetttetee atetegtagt egtteeecet cataceagee attggetgae aenttgattg
                                                                          480
gatgaaggcc ancttanncc nactngcagg gagaagtcaa tttgnttgnt taaccnntna
                                                                          540
atggancett accnantine acctggggte aagtgagggt teaagtetge angeggette
                                                                          600
ccgctgctgt ggtcccaagg gcaagttatn cagcggggcc cgcgttacct tgggccgggg
                                                                          660
accaacgeet taanggeeg aaatttecaa geacaettgg eeggeeegtt acctagtggg
                                                                          720
atnccgaact tcgggtaccc aaagccttgg gcgttaatca atgggtcaat aggcttggtt
                                                                          780
tcctggtgtg naaaattggt aatccggttc acaanttccc cacaaca
                                                                          827
       <210> 157
       <211> 818
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(818)
      \langle 223 \rangle n = A,T,C or G
      <400> 157
aacactatga cctgatacgc cancttggta ccgnctcgga tccctagtaa cggccqccaq
                                                                           60
tgtgctggaa ttcgcccttt cgagcggccg ccgggcaggt acataatctg gaaatttatg
                                                                          120
ttacaggtat gcatatttgt atatgaaaaa tattaactga gaaattactg agcttcttag
                                                                          180
caaaaaatat aattatttca gagatatgat acagtttaat atctgccttc ctcaaaaaqt
                                                                          240
cagaaaataa aaagttttaa attgcatata ttttcatttc ttacatatgt cagaacactc
                                                                          300
agaattttta ataaaatgtt ttaaaacata attataagtt gttactttta tttctatggt
                                                                          360
tagtggaacc cacagggtcc tgtatctgat taaatggagg atatattagg agaattttt
                                                                          420
agaagaatga cacatgtgac ataccaccat atttgcaaga aaatataact tgatagtaga
                                                                          480
gtaagttagc tgctttatat gatgaattaa aggcactagc tcttagaaaa aaaaggatta
                                                                          540
aaatgotgac ttcagtaata atgtaaggag ctctgctctt taacatttcc taattaggta
                                                                          600
taaactatga tggaagggaa aggtggaatg gaagtntcta cntnttacca ttggctttcn ttcatgaaat tggcagnnag cctnccattt cnnnaggnct ttaatnaaaa antttttccc
                                                                          660
                                                                          720
aacttttnct tttcnaaaaa nttnttnncc nnatngnnaa ctggnggtna aaacccggct
                                                                          780
tttttggggg gaaancctac ctggntnggg naaaaant
                                                                          818
      <210> 158
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (772)
      <223> n = A,T,C or G
      <400> 158
ntgggcccnt nnagcatgct cgacggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                          60
ttagcgtggt cgcggccgag gtacttcaac cacccctcct acaaaactct atacccttgt
                                                                         120
catattaaaa ttgtatgtta tgccaggctt ccctaataca acaaaatctc tgaataaaac
                                                                         180
ctattaaata tacaatttct atcaacatgc ctgccacaca tgcttaataa ttgcttagtg
                                                                         240
aatacaagat taatgcatga gtgcctaagt tacttcatct agtataacaa atgacaatat
                                                                         300
ctcatttgtt tcccgaagta tccttattcc attcaagctc tgaagaaagt attaatgata
                                                                         360
ttcgtcctta agtaattttt tctgcattca aatctcacca ttcaaatgat tttccaacag
                                                                         420
tagtttcccc aaaagcagtt tacacagtta catttgttat aatttttgaa agaaaagttg
                                                                         480
ggaaaatttt attaagactc tgaatgtagc ttactgccaa ttcatgaaga aagcaatgta
                                                                         540
atacgtagat acttcattcc acctttccct tcatcatagt ttataactaa ttaggaaatg
                                                                         600
ttaaagagca gagctcctta cattattact gaagtcagca tttatacttt ttttctaag
                                                                         660
agctagtgcc tttaattcat catataaagc agctaactta ctctactatc aagttatatt
                                                                         720
ttcttgcaaa tatggtggta tgtcacatgt gtcattcttc taaaaaattc tq
                                                                         772
      <210> 159
      <211> 1024
```

<212> DNA

```
<213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 159
ttgggnaaaa ttttaaaccg gccccccaa angncccttt ttgggggntt aaaccccccq
                                                                         60
gnaangcccc tttccggggg gggaaattcc ccccaaccct ttaaaggttt aaaaacccgg
                                                                        120
gggccnccgg gcccccaaa ggtttgggtt tgggccttt ggggggaaaa aattttttcc
                                                                        180
gggcccccc ntttttaaag gccgggttgg ggggtttccc gggcccgggg gccccccqqa
                                                                        240
aaaggggttt aaccccttn aatttttttn gggtttttcc cccccaaatn gggtttccaa
                                                                        300
tttttttt tttaaaaaac ccaaaanggg aaaaaaaggg gttggcccaa aatttaaggg
                                                                        360
cctttcttc aaaagggttt cctttgggaa aaaaaaacct tgggttgggg gaaaaggttt
                                                                        420
ncccaaaaat ttaaacctgg gaaaaccttc tttgggnaac ccactttaaa aatttaaant
                                                                        480
taaanttaaa tttaaattta aanttaagga atgggnttgg aaaaaaaaag gaatattccn
                                                                        540
ttaatttggc cttaattttt taatttgntn atttgactgg tnatgnnttt acttttnaaa
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aacntnctnn ccaaaaacca attttacntg gncnngtggg atttaccntn ttcnattacc
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ngggagttaa cccaactnga acntttngga gggnccagtc ctccataggg acctccntca
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nttntgatnc caactgcaag ttcagggaaa ttctcacatc ccccttgggc natatatctc
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tttaaaagcn cctcacagca ctcactgaan tctattatat tatagatang gtntattatg
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ggaaangggt nacanntcaa natnncccaa cgcggggana cacanngngc agngcccgat
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gatntteena nacacagant ttggtgttet etggagnegt tteeceenta gnaaaatgtt
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tgttttctac atgaaaaata ccattttggc tttatcaaca tgttattaat tcataatatg
                                                                       180
agagatetat cageactatt tgtaaaaata tteaattaaa aaaattaaga tgatttatag
                                                                       240
ttgtgtggta aagaatttga ccttacccaa aggaggtcag gcttttgccc tcagccttaa
                                                                       300
ggagataatc ttgtcatacc caataaaagt gttattttaa agtgaggctg actacacctg
                                                                       360
ataatccagc ttgagggaca gttatgccag tttgaccaac tagatgattt agggagcttt
                                                                       420
ctctcccaac ttcaaagctg tgatgaatca aacaggtaat taatcgatca tgcttatgta
                                                                       480
atgaagcett gattgaaact teaaagattg attgaegtte ettggttggt aatactetgt
                                                                       540
catgtgtcaa ttctagaagg gtaatacgtc ctgaggataa cagaagctct gtgtttggaa
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tcatcctgga ctctgcactt tgnttctcct gctttggctg attttgatct gtaaccttta
                                                                       660
cctataataa accataacta taatataata gatttcagtg agtgctgtga ngctttctag
                                                                       720
tgatttattg aacctaaggg tggatgtgag aatttnctga acttgcagtt g
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                                                                          120
aatggcaagt ggtaatttag aagaattaag ttatcagata ggagatatat taaaatattt
                                                                          180
aaaaattgga tatattettg aageeetttt acacaagtaa titetataat tigattgtaa
                                                                          240
tgaaagtata atataccttg ttactattat cagattaatt tttgaaagta gaattcctta
                                                                          300
atcaagccaa ggttatgctg ctttataaga aattaatcag gtagtttaac actagagctc
                                                                          360
attagccaac ctgtatgtag cacaaaataa tcatctctga taaataccta taaatatatt
                                                                          420
ttattcatac ttttaaatat tttacaattc aaataaaaac cttatatgta gacaatctgg
                                                                          480
gctaaatttc catgtatgtt ttgaaaaata atgttagcat gaatagattc atatttaaat
                                                                          540
atgattttaa atactettaa tagaggagae ataagaaata tttacataaa agetaagtag
                                                                          600
catgatacag ctcatggtta ttttcctcat aggaaaacaa ttacttgatt tttttttgca
                                                                          660
taggattaaa gactgagtat cttttctaca ttcttttaac tttctaangg gcacttctca
                                                                          720
aaacacagac caggtagtaa atctncactg ntctaaggtc tcaccccact t
                                                                          771
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gcggccgccc gggcaggtac tacaaaaaca gaataatttt gaagttttag aataaatgta
                                                                          120
atatatttac tataattcta aatgtttaaa tgcttttcta aaaatgcaaa actatgatgt
                                                                          180
ttagttgctt tattttacct ctatgtgatt atttttctta attgttattt tttataatca
                                                                          240
ttatttttct gaaccattct tctggcctca gaagtaggac tgaattctac tattgctagg
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tgtgagaaag tggtggtgag aaccttagag cagtggagat ttactacctg gtctgtgttt
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tgagaagtgc cccttagaaa gttaaaagaa tgtagaaaag atactcagtc ttaatcctat
                                                                          420
gcaaaaaaaa atcaagtaat tgttttccta tgaggaaaat aaccatgagc tgtatcatgc
                                                                          480
tacttagett ttatgtaaat atttettatg teteetetat taagagtatt taaaateata tttaaatatg aatetattea tgetaacatt atttteaaa acatacatgg aaatttagee
                                                                          540
                                                                          600
cagattgtct acatataagg tttttatttg aattgtaaaa tatttaaaag tatgaataaa
                                                                          660
atatatttat aggtatttat cagagatgat tattttgtgc tacatacagg ttgggctaat
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gtagaagtet ttgcaagett catacagaga aatacaaaag gtgtgatgec attaactggt
                                                                          180
cctttctaaa gcattaggaa tttagtgaaa ctctcaaaca caaaactgaa aagccatttg
                                                                          240
aacaaatctc atatacttgt agataagctt ttttttattt aaagcataca aattcaaatc
                                                                          300
tttcaagcag aaaattcagt caagtgagat ccattggtgg tttgagttca aagtcagtga
                                                                         360
gcaaatggaa atcattgcgg catctctctc atttccctag tggacattag accactcaaa
                                                                          420
atgtgtcaca taatttacag ccccttggta gtaattgaat atacacgttg agagtgcact
                                                                         480
ggcagaacac ttaagaaaga ttgaatgcag gaggaccagc ttacgttatt tittggctcta
                                                                         540
ctctggtttt tgcttttaat gttttttctt gagattaatt tcaattgggt tgttccatcc
                                                                         600
tattcaaaca aatgetttga gagaagagat qaacaqcaqe atcaaataaa attqtqatat
                                                                         660
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ttagtttnag agacatcang tgttgtaatc aaataagaca gaanggccaa gttaaaatct
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ggaggagaaa gaggagaagg aaggaaattt tcaaatgaca atttctatca ggactcattt
                                                                      180
tectattata agtteagaat aettggaegt etttataaaa teaagttgaa atetetaeta
                                                                      240
ttttgatctg tattctctta aatattaaag gttataccta gggagattcc atgttgactg
                                                                      300
gcaaacaaag cataccattt taagaataac tetteataaa atatgtgtet aagaattaaa
                                                                      360
agtgtctagt aacagataca caaaagagag atttagaata attaatattt aaagacagat
                                                                      420
aattttaatg tttcacactt ttaactacaa aattctttgt tttcctaaat attagcaaaa
                                                                      480
atgttatata ttaaaataaa tcttgaaaat ctcaccctac atttagataa tagttcaaaa
                                                                      540
gtcatattgc taatctacct ctcaattctg ctattcttac agcttaaatt catttatggc
                                                                      600
aaatcacaga ttttactttg tccttctgtc ttatttgatt acaacacctg atgtctctga
                                                                      660
aactaaatat ccaatttatt tgatgctgct gttcatctct tctctcaaag cattngtttg
                                                                      720
aatangatgg aacaacccaa ttgaaattaa tctcaaggaa aaacattaaa ant
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agaataacaa cgggcaaaat ctttttagaa catttatgct ttatctgttt tagcttctaa
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240
tccaaaattt taatgaaaac tttacggttg agagaaatag gtaaataaaa aaacttccta
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aaattctaaa gacaattgtt gaataaaatt taagtgaatg agtttgtgct tcatatttaa
                                                                      360
cttttaactt tccaataggc tttattaaat ggaaaactga aatttacaaa qtcttaqaqt
                                                                      420
agaagcattt ttatcctggc tagggattct ctaagagaac cagtagcacc aagatgcact
                                                                      480
ggaacagtgc aacgagagag ttcatgcctt agggtttaga agcatacaag caaagggaat
                                                                      540
ggtgcccact tcttactaga aaaatttcac aggctggagt ctgggcggag gagcctggga
                                                                      600
tgacagtaga agtgtgcagg aagcactaag tctagcctgt acctgcccgg gcggccgctc
                                                                      660
gaaaggcgaa ttctgcagat atncatcaca ctggccggcc gntcgagcat gcatntagag
                                                                      720
ggcccaattc gcctatagtg ancgtattac aattcactgg ccgcgtttta caacgtnnng
                                                                      780
cnn
                                                                      783
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cttaatcgcc ttgcagcaca tccccctttc gccagctggc gtaatagcga agaggcccgc
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accgategee etteccaaca gttgegeage etgaatggeg aatggaegeg ecetgtaacg
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gcgcattaag cgcggcgggt gtggtggtta cgcgcagcgt gacccgtaca cttgccaqcq
                                                                         660
coctanegee egethettte getttettee etttettet theeaegtte geeggetttt
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tccgtttagt gagaaacctt tcaattttct tttattagaa gggccagctt actqttqqtq
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gcaaaattgc caacataagt taatagaaag ttggccaatt tcaccccatt ttctgtggtt
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tgggctccac attgcaatgt tcaatgccgc gtgctgctga caccgaccgg agtacctcgg
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tcggtaccaa gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg
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ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg gggtgcctaa
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tgagtgaget aacteacatt aattgegttg egeteactge eegettteea gtegggaaac
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ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg tttgcgtatt
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gggcgctctt ccgcttnctc gctcactgac tcgctgcgct cggtcgttcn gctgcggcga
                                                                        660
gcggtatcaa gctactcaaa ggcngtaata ccgntatcca cagaatcagg ggataacgca
                                                                        720
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gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac acagaatagc tgagcagttc
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acttcaggga tcaggtcatc tctgctcctc ctagtttcac catgttctgg caataaaaaa
                                                                        180
cacatattat atcctggttt tctctatcct tgcattacta aqqtqactqt ctctctttat
                                                                        240
acatecttgt atggttetee cagtattage aagattgtat atetgtaaag aatgtecagt
                                                                        300
tttgtaaata tttccctgcc tttttttttc ttttttaca tctgatttta atgcttcgtt
                                                                        360
aacttcaaaa ggaactggta gagttcagaa ggtgagctgt tgtttttcta aacctcttcc
                                                                        420
caggaagggg acattgacac ttgaattttt gtcacctttt tcctcattag aaggaaagta
                                                                        480
gaaagcctta ctgtaggatt tttaaaaaaa aatccatctc accccatatt ggtcttaaat
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aagtatagac taattaacct aagctacctt taacaacgta gaatttagat gggttcatat
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atgtgagaaa aacctgaata taggacaggg gtcctacttt tttccccacc tctgtcgccc
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aggetagagt atagtggtgt gatettggee caetgnaace tetgetteet anggteaagt
                                                                        720
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       <223> n = A, T, C \text{ or } G
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                                                                           120
tagaaagtag getgggeacg gtggeteatg cetataatec cageacttgg ggaggeegag
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gatctcctct ctggtggatc acttgagggc aggagttaag agaccatcct ggccaacatg
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aatcccagct acttgggagg ctgaggcagg agaatcactt gaacctagga agcagaggtt
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gcagtgggcc aagatcacac cactatactc tagcctgggc gacagaggtg gggaaaaaag
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                                                                          480
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                                                                          600
                                                                          660
ctcaccttct gaactctacc agttcctttt tgaaagttaa ccgaagcatt aaaatcagat
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                                                                          120
aggettetet etttaattet eeatgaggea teeagggtgg tetgggetat gggaagaace
                                                                          180
cttcaacttg ggagtagaca ggtgctccaa ttcatagtgc ccattctcag aggccttgtg
                                                                          240
tgtgagtttc tccttcatgc cttccttctg gctcttcttg tgctccataa tctgctggag
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ctggtgccca gcatagtctg gcttggtggt cagcgggcca gccggcacag ctacaccaag
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gacatetgac accatgtagg ggcgcagcca gcccaccaag ggagtgcttc cggggctgta
                                                                          420
gtgggtctgt ttgtggtaga agagaagtcc atctacctca aaagggaaat ccatagatag
                                                                          480
cacatcacac aggetttegg gagtgeaagg gaagttettt ageeccacaa atttaaaagg
                                                                          540
attaagettg gttttetete eeagteette ttettetggt aactttgaat geateeagta
                                                                          600
gaatcggaaa tcaagtctgg caatcataaa aagggtgtcc ccgccagcac atcacattca
                                                                          660
gaacgtagta ggtctggttt acctcattgt aaatgcaatc tagaatggtg taagcttttg
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ggaactgcag aaatccaagc ggctggatta tgtgaaccat gccagaagac tggctgaaga
                                                                          180
tgactggaca gggatggaga gtgaggaaga aaaataagaa agatgatgaa gaaatggaca
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ttgacactgt caagaagtta ccaaaacact atgctaatca attgatgctt tctgagtggt
                                                                          300
taattgacgt teetteagat ttggggcagg aatggattgt ggtcgtgtge ectgttggaa
                                                                          360
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aaagagccct tatcgtggcc tccaggggtt ctaccagtgc ctacaccaag agtggctact gtgtcaacaag gttttcttca ctctctgcag gaggcaacaag gcgaaactca acagcaaaag actacaccat tctagattgc attacaata aggtaacca gagcacaacta gttctggatg tgattgctg gcggggacac cctttttatg attgccagac tgatttccga ttctactgga tcgattcaaa gttaccagaa gaaaagagac tggaaaacca gaccaactac aaccagcata actattgtggg gctaaagaac ttcccttgca ctcccgaaag cctgtgtgat gtgctatcta ttgaggtttct tttgaggtag atggacttc cttctaccac aaacaagacc ac tcgatttct tttgaggtag atggacttc cttctaccac aaacaagacc ac tcgatttct tttgaggtag atggacttc cttctaccac aaacagaccc ac tcgattct tttgaggtag atggacttc cttctaccac aaacagaccc ac tcgattcct tttgaggtag atggacttc <210		
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<pre></pre>	<211> 780 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)(780)	
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<pre><221> misc_feature</pre>	acactatgac ctgatacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc agtgtgctgg aattcgcct tagcgtggtc gcggccgagg tacaaaaata cattttcca catacaaaag agagaaaaa acaaagacat gtggcggtg gcgaggggag gccaatccc aagatatcta agagttccat ggaatggaa aggaacaaaa aaatccccaa ttattttggg gtaagatgtg ccccagaaaa ggtgaaatct atgcaataaa acccaggttt tcttcaaatc tagcatctag gatttctatc agagtttcaa ataatcagaa tttctatcag aatttctacc ctgaggtgac acctactaac tgtaggttct tcattaaaa atgaagacat ctttcaccag aatgtatcaa gctataaaac tggcttcaga gcctacactt agccagagtg gaaaaaaaat agtgcatatt ttcgacagca attttgaatt gatgcttgag gtctcaatcc accagcaccc agatatcatg ttacctcct cagttgaata caagttaaaa tgatgatctt atcgagatct catgtttcgg gtaagaaggt gggaggagga atgaagccgg gtattacacc cagcccaatg acagcttaag ccttaacatg cnggcatctt acaatgacca taaacaaggg angggccaag canggctngc gatcattact ttgcgcacag aatgccatgt catgttct ttgcgcacag aatgccatgt catgttct acaatgacca ttgcgcacag aatgccatgt catgttct acaatgacca ttgcgcacag canggctngc gatcattact ttgcgcacag aatgccatgt catgttct acaatgacca ttgcgcacag canggctngc gatcattact ttgcgcacag aatgccatgt catgttccatgt catgttcatact catgttccatgt catgttcatact catgttccatgt catgttcatact catgttc	120 180 240 300 360 420 480 540 600 660 720
addalaalla qqqatttttt tqntccttct ccattccata aaacattata aaatattta aa	<pre><221> misc_feature</pre>	120 180 240 300 360 420 480 540 600

<210> 176 <211> 773 <212> DNA

<213> Homo Sapien

80

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<220>
     <221> misc_feature
     <222> (1) ... (773)
     <223> n = A,T,C or G
     <400> 176
atngggcctc tagagcatgc tegageggcc gccatgtgat ggatatctgc agaattcgcc
                                                                      60
cttagcgtgg tcgcggccga ggtactcatg tattttttt tttttccaga tctctttccc
                                                                     120
caagitgcta tigtaagagt attetgetge gigtggatge agitatacae attaaageag
                                                                     180
atctggagtc tgaagtagct ataaagcagc tataaaacag aaatacatgc atagctgcag
                                                                     240
300
ttggttttac agagaagaga tttttattac aaagaaaaaa attccagtga attgtgcaga
                                                                     360
aatgctggtt tttacaccat cctaaagaaa aactttacaa gggtgttttg gagtagaaaa
                                                                     420
aaqqttataa aqttggaatc ttaaattgta aaattaacca ttgagtgtca aagttctaaa
                                                                     480
                                                                     540
agcagaactc attttgtgca atgaacataa ggaaagacta ctgtataggt ttttttttc
tccttttaaa tgaagaaaag ctttgcttaa gggttgcata cttttattgg agtaaatctg
                                                                     600
aatgatecta eteetttgga gtaaaactag tgettaecag tttecaattg tatttagett
                                                                     660
ctggttggaa tttgaaaaaa aaagaaaaaa agaaaaagaa aacctaaata aaataggtga
                                                                     720
aagttccctg actattcagg tgaatacnca aaaanaaaan nnnnnnaann nnt
                                                                     773
     <210> 177
     <211> 772
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (772)
     <223> n = A,T,C or G
     <400> 177
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                                                                      60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cagtaggaaa ataagaataa
                                                                     120
                                                                     180
caacgggcaa aatcttttta gaacatttat gctttatctg ttttagcttc taaaacaatc
                                                                     240
ctgaaggatg aataattatc atgagtatag cagaatttaa ttttccctgt tgctccaaaa
ttttaatgaa aactttacgg ttgagagaaa taggtaaata aaaaaacttc ctaaaattct
                                                                     300
aaagacaatt gttgaataaa atttaagtga atgagtttgt gcttcatatt taacttttaa
                                                                     360
ctttccaata ggctttatta aatggaaaac tgaaatttac aaagtcttag agtagaagca
                                                                     420
tttttatcct ggctagggat tctctaagag aaccagtagc accaagatgc actggaacag
                                                                     480
tgcaacgaga gagttcatgc cttanggttt agaagcatac aagcaaaggg aatggtgccc
                                                                     540
                                                                     600
acttettact agaaaaattt cacaggetgg agtetgggeg gaggageetg ggatgacagt
                                                                     660
aqaagtqtqc aqqaagcact aagtctagcc tgtacctgcc cgggcggncg ctcgaagggc
gaattetgea gatateeate acaetggegg cegetegage atgetetana gggeceaatt
                                                                     720
                                                                     772
cgccctatag tgagtcggat tacanttnaa tggccgncgt tttacaacgt cc
     <210> 178
      <211> 770
     <212> DNA
     <213> Homo Sapien
      <220>
     <221> misc_feature
     <222> (1) ... (770)
     <223> n = A,T,C or G
     <400> 178
                                                                      60
attqqqcccc tnnaqcatqc tcgngcggcc gccagtgtga tggatatctg cagaattcgc
ccttcgagcg gccgcccggg caggtacagg ctagacttag tgcttcctgc acacttctac
                                                                     120
tgtcatccca ggctcctccg cccagactcc agcctgtgaa atttttctag taagaagtgg
                                                                     180
gcaccattcc ctttgcttgt atgcttctaa accctaaggc atgaactctc tcgttgcact
                                                                     240
                                                                     300
gttccagtgc atcttggtgc tactggttct cttagagaat ccctagccag gataaaaatg
```

```
cttctactct aagactttgt aaatttcagt tttccattta ataaagccta ttggaaagtt
                                                                           360
aaaagttaaa tatgaagcac aaactcattc acttaaattt tattcaacaa ttgtctttag
                                                                           420
aattttagga agttttttta tttacctatt tctctcaacc gtaaagtttt cattaaaatt
                                                                           480
ttggagcaac agggaaaatt aaattetget atacteatga taattattea teetteanga
                                                                           540
ttgttttaga agctaaaaca gataaagcat aaatgttcta aaaagatttt gcccgttggt
                                                                           600
attettattt teetaetgta eeteggeegn gaecaegeta agggegaatt eeageaeact
                                                                           660
ggcggccgnt actagtggat ccgagctcgg tacccaanct tggcgtaatc atggncatag
                                                                          720
ctgttcctgn gngaaatngn natncgntna caattnccac acatacnann
                                                                          770
       <210> 179
       <211> 502
       <212> DNA
       <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (502)
      <223> n = A, T, C \text{ or } G
      <400> 179
cnnnttgacn tgattcgcca acttggtacc gagctcggat ccctagtaac ggccgccagt
                                                                           60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac ctggccccca acttctcqaa
                                                                          120
taaaatgaaa ctatgattct tggcctcact cactaccatg tgacattgat caaatcactt
                                                                          180
caccteteca aaccteagag tetttatetg taagatggaa aaagtaacae etaetteagg
                                                                          240
ggctgtcatg aggattaaat aaatgtgccc agcaggtagt aagtatacaa cacaaagcat
                                                                          300
ctaatggttc attcatacat ttgcttattt tgcaattatt ggccacctgc caatgttggg
                                                                          360
cactgttcta ggcacagggg atacagcaag ggcaaacacc taactactgg tggagggaag acgataaaca aatacgtaaa gatttgtgcc aggtagtgat aaaagcaaag aatgactcat
                                                                          420
                                                                          480
ggagagggtc agctggggag ac
                                                                          502
      <210> 180
      <211> 823
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (823)
      <223> n = A,T,C or G
      <400> 180
gggccttnna gcatgctcga cggccgccat gtgatggata tctgcagaat tcqccctttc
                                                                           60
gageggeege eegggeaggt actgegtggt etecceaget gaeeetetee atqaqteatt
                                                                          120
ctttgctttt atcactacct ggcacaaatc tttacgtatt tgtttatcgt cttccctcca
                                                                          180
ccagtagtta ggtgtttgcc cttgctgtat cccctgtgcc tagaacagtg cccaacattg
                                                                          240
gcaggtggcc aataattgca aaataagcaa atgtatgaat gaaccattag atgctttgtg
                                                                          300
ttgtatactt actacctgct gggcacattt atttaatcct catgacagcc cctgaagtag
                                                                          360
gtgttacttt ttccatctta cagataaaga ctctgaggtt tggagaggtg aagtgatttg
                                                                          420
atcaatgtca catggtagtg agtgaggcca agaatcatag tttcatttta ttcgagaagt
                                                                          480
tgggggccag gtacetegge egegaecaeg etaagggega attecageae aetggeggee
                                                                          540
gttactagtg gatccgagct cggtaccaag cttggcgtaa tcatggtcat agctgtttcc
                                                                          600
tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa gcataaagtg
                                                                          660
taaageetgg ggtgeetaat gagtgageta acteacatta attgegttge geteactgee
                                                                          720
cgcttttcag tcgggaaacc tgtcgtgcca gctgcattaa tqaatcgqcc aacqcqccqq
                                                                          780
gaaaagengn ttgcgtattg gggcgctctt ncgctttctt gen
                                                                          823
      <210> 181
      <211> 501
      <212> DNA
      <213> Homo Sapien
```

<220>

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<221> misc feature
       <222> (1) ... (501)
       <223> n = A, T, C \text{ or } G
       <400> 181
 cantatgacn tgattcgcca acttggtacc ngctcggatc cctagtaacg gncgccattg
                                                                            60
 tnctggaatn cgnccttagc gtggtcgcgg ccgaggtact ttcttcnttt nctnnaattt
                                                                           120
 tccataacct agtgccngnt tgatnccctc acatggntgg ttcacatncn cngtacagan
                                                                           180
 geneggneae catggganag ggeageacte ntneettetn angggatett ggeetaangg
                                                                           240
 tgtacnaagg gagangatgg antntcttct gncctcncta nggcctaggg aacccagnag
                                                                           300
 canateccae nacneetten atntttnage caaggagaag eceettggtg aenttnagtt
                                                                           360
 ccaaccatta tacncagtgn gagaatggat nntcctggtc ccaaccatta cagggtgaag
                                                                           420
 atatnaacag ttaaggaaga tacagtttng atgaggcctc anganggagc agntnacacc
                                                                           480
 atcatannca tatgcaggga a
                                                                           501
       <210> 182
       <211> 830
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(830)
       <223> n = A,T,C or G
       <400> 182
ggcccttnga ngcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                           60
cgagcggccg cccgggcagg tacacgagaa gctccgagga tggctgaagt ccaacgtctc
                                                                          120
tgatgcggtg gctcagagca cccgtatcat ttatggaggc tctgtgactg gggcaacctg
                                                                          180
caaggagetg gecagecage etgatgtgga tggetteett gtgggtggtg etteeeteaa gecegaatte gtggacatea teaatgecaa acaatgagee ecatecatet teeetaceet
                                                                          240
                                                                          300
tectgecaag ccagggacta ageageecag aageecagta actgecettt ccetgeatat
                                                                          360
gettetgatg gtgteatetg etectteetg tggeeteate caaactgtat etteetttae
                                                                          420
tgtttatatc ttcaccctgt aatggttggg accaggccaa tcccttctcc acttactata
                                                                          480
atggttggaa ctaaacgtca ccaaggtggc ttctccttgg ctgagagatg gaaggcgtgg
                                                                          540
tgggatttgc tcctgggttc cctaggccct agtgagggca gaagagaaac catcctctcc
                                                                          600
cttcttacac cgtgaggcca agatcccctc agaangcang agtgcttgcc cttcccatgg
                                                                          660
tgcccgtgcc tcttgtgctg ngtatgtgaa ccaccccatg tgagggaata aacctggcac
                                                                          720
tangtetttg aaaaaaanaa aaacntnaaa aaaanteeet teggeegnga ceaegetaag
                                                                          780
gnccaattcc ancacaatgg gcgnncgtna ctantggatc caaccttnct
                                                                          830
      <210> 183
      <211> 484
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (484)
      <223> n = A, T, C or G
      <400> 183
ttgacatgat acccaacttg taccgagete ggatecacta gtaacggeeg ccagtgtget
                                                                           60
ggaattcgcc ctttcnagcg gccgcccggg caggtacccc agcccgccc actgagtttg
                                                                          120
ccttctatcc gggatatccg ggaacctacc agcctatggc cagttacctg gacgtgtctg
                                                                          180
tggtgcagac tctgggtgct cctggagaac cgcgacatga ctccctgttg cctgtgggca
                                                                          240
gttaccagtc ttgggctctc gctggtggct ggaacagcca gatgtgttgc cagggagaac
                                                                          300
agaacccacc angicccttt tiggaaggca gcattigcag acticaacgg gcaaaacctc
                                                                          360
tgacgcctgc gcctttcgtc gcggncgcag aaaccatttc gnactttaan attgaatctt
                                                                          420
ctctaaggtt.ganaatttct ggatcccttg anaactttta canntgnnct ttantccntt
                                                                          480
taaa
                                                                          484
```

```
<210> 184
       <211> 824
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) . . . (824)
       \langle 223 \rangle n = A,T,C or G
       <400> 184
ggccttagag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
                                                                          60
tggtcgcggc cgaggtacca gattggccac tctagggtag aacaccaggt agattcctaa
                                                                         120
ggttcctgac tccaggccct ggctcccagt tggcatctct ggacctactt ggggtcacag
                                                                         180
tgaactcact gccctgaagg gaagatgcct ggctggatat gccacctgct gattqqaqaq
                                                                         240
tccttggacc ttgagtgaac acaggtggta gccaggcagt gatcatcata ggccttgggt
                                                                         300
gagececagt getgttgtg etteaggtet gaeacagage tgteceagtg gtagtegea
                                                                         360
caggggtgct tgtgtcatca tcccttctcc agctccaggc agctcagcac agagacatag
                                                                         420
tgtccatttg tttgagtgaa agtaaaagaa gagaacaaga gtctccacct agtaatccag
                                                                         480
ggaattetee cagatettae ccaagacaac caaggcaaga gacacagcat tactgggetg
                                                                         540
gaggtgcccc ctaatgcagg tatggctgca gtgaacaaag acttagatca caacaccaa
                                                                         600
atcccttcta atagttggaa agccttncca agaaggatgc cggacaaaca agcccaaact
                                                                         660
gtgaagacta caacaaatac ctaactcttt caatgcccag acactgaaga atatcccaaa
                                                                         720
ctttaagacc atccatgaaa acatgacctt accaacaagc taaataagac accagtgacc
                                                                         780
aatcccagag agatagagat atgtgtcctt tcnnacagag aatt
                                                                         824
      <210> 185
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (499)
      <223> n = A,T,C or G
      <400> 185
cacttgacnt gatacgccaa cttgtaccga ctcggatcca ctagtaacgg ccgccagtgt
                                                                         60
gctggaatte gcccttageg tggtegegge egaggtaett tttettttt nttntatttt
                                                                        120
tttttttcgt ctccccaaag ctttatctgt cttgactttt taaaaaagtt tgggggcaga
                                                                        180
ttctgaattg gctaaaagac atgcattttt aaaactagca actcttattt ctttccttta
                                                                        240
aaaatacata gcattaaatc ccaaatccta tttaaagccc tgacagcttg agaaggtcac
                                                                        300
tactgcattt ataggacctt ctggtggttc tgctgttacg tttgaagtct gacaatcctt
                                                                        360
gagaatettt geatgeagag gaggtaagag gtattggatt tteacagagg aagaacacag
                                                                        420
ccgcanaatg aagggccagg cttactgagc tgccaatgga gggctcatgg gtgggacatg
                                                                        480
gnaaagaagg cacctagcc
                                                                        499
      <210> 186
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(504)
      <223> n = A, T, C \text{ or } G
      <400> 186
cacttgacnt gatacgccaa cttggtaccg agctcggatc cctagtaacg gccgccagtg
                                                                         60
tgctggaatt cgcccttagc gtggtcgcgg ccgaggtacc tcaggaggtc tgcaagtgtg
                                                                        120
tggttaggta aaaactganc tgtgcaaact cactgtatcc aagctcttct catgagagag
                                                                        180
cggaacaacc tggcaagctt aaaggcaagt gttttcgttc ttttaattaa ataggctgtg
                                                                        240
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<220>

<221> misc_feature <222> (1)...(842) <223> n = A,T,C or G

```
acaaaattaa caataaaact agcccagaac caaccagccc ggtaagtgtc gtgcaaatct
                                                                         300
tgcagtaaca aaagaccatc tgagagacta cacgttggtc tccagtccta gcaagcgtcc
                                                                         360
catteteine acattettat caattgtage tigacatgtt ateteetigg cacattecat
                                                                         420
aggaaaccag cetetttetn catetegtag tegnteecee ttataccage categetgae
                                                                         480
acgtttgata gatgaagacg acgt
                                                                         504
       <210> 187
       <211> 822
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc feature
      <222> (1)...(822)
       <223> n = A, T, C \text{ or } G
       <400> 187
gggcctctna gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgccctttcg
                                                                         60
ageggeegee egggeaggta egeggggaet gggtttttet cettttgtag eetttteett
                                                                         120
tagteteete tteeeggtgg ttggtaaaaa gaggtgaatt gacageetat gttgaagaca
                                                                         180
ctgtgctttt ctcaagaagg acatccaaac agcaagtcta cttcttctc tttaacgatg
                                                                        240
tgctcattat caccaagaag aagagtgaag aaagttacaa cgtcaatgat tattccttaa
                                                                        300
gagatcagct attggtggaa tcttgtgaca atgaagagct taattcttct ccagggaaga
                                                                        360
acagetecae aatgetetat teaagaeaga getetgeeag teacetettt aetetgaeag
                                                                        420
teettagtaa eeaegegaat gagaaagtgg agatgetaet aggagetgag aegeagageg
                                                                        480
agegageecg etggataaet geeetgggae acageagegg gaageegeet geagacegaa
                                                                        540
cctcactgac ccaggtggaa atcgttaggt catttactgc taagcagcca gatgaactct
                                                                        600
ccctgcaggt ggctgacgtc gtcctcatct atcaacgtgt cagcgatqqc tqqtatqaqq
                                                                        660
gggaacgact acgagatgga gaaagaagct ggtttcctat ggaatgtgcc aaggagataa
                                                                        720
catgtcaagc tacaattgat aagaatgtgg agagaatggg accttgctag gactggagac
                                                                        780
caacgtgtag tctctcaaan gncttttggt actgcaagat tg
                                                                        822
      <210> 188
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(504)
      <223> n = A, T, C \text{ or } G
      <400> 188
tatgancatg atacgccaac ttggtaccga gctcggatcc actagtaacg gcccgccagt
                                                                         60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac caaaaaagta aacattgata
                                                                        120
atatggcctg acaacaatca gatatgctaa gctctagaag caaaagcaag gtaggattgc
                                                                        180
ctccaaatgt tgacaggtat tagccatacc acagtaacta gatctaatgt gagggctaaa
                                                                        240
tgcctggaga ggcagaaccc taaaggatgc ttagttatag ctccatgctg ccgccgagtg
                                                                        300
gettgatget ceattacace etcettggat ceaacettee attaaggetg aaggetetag
                                                                        360
agggcagagt attcaagatg ttagatctgg tccaagccca aattctagag ttaaaagcag
                                                                        420
aggggttett agtggetgaa aaaaaacaaa acetgatgae atttgggaet eeagttttga
                                                                        480
ggaaaggctc tgatgatgag gctt
                                                                        504
      <210> 189
      <211> 842
      <212> DNA
      <213> Homo Sapien
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<400> 189
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                                                                         60
 ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cccttctcgc ttttgccatt
                                                                        120
 agccaaggat agaagctgca gtggtattaa tittgatata atctttcaaa ccaqcttcat
                                                                        180
 gtggcttccc ttttctttgt tcaagatgag ggccaggagg ggaaacatca cacctgccct
                                                                        240
 aaaccctgtt cctggaggtc agcatttgat ctgttgcaag cccctctttc tgtcccctct
                                                                        300
 tectaceetg ceteceatga etttgeteet caeaettttg gaaceatgee tteegggggg
                                                                        360
gcccatctct tctggccgtc cttgtctctg ggccacttgg agtgtgtgat aaatcagtca
                                                                        420
agctgttgaa gtctcaggag tctctggtag cctgcagaag taagcctcat catcagagcc
                                                                        480
tttcctcaaa actggagtcc caaatgtcat caggttttgt ttttttcag ccactaagaa
                                                                        540
cccctctgct tttaactcta gaatttgggc ttggaccaga tctaacatct tgaatactct
                                                                        600
gccctctaga gccttcagcc ttaatggaag gttggatcca aggagggtgt aatggagcat
                                                                        660
caagccactc ggcggcagca tggagctata actaagcatc ctttagggtt ctgcctctcc
                                                                        720
aggcatttag cccctacatt agatctagtt actgtggtat ggctaatacc tgtcaacatt
                                                                        780
tggaggcaat cetacettge ttttgettet agagettage atatetgatg gttgeaggee
                                                                        840
                                                                        842
      <210> 190
       <211> 503
       <212> DNA
       <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(503)
      <223> n = A, T, C \text{ or } G
      <400> 190
actatgacct gattacgcca agcttggtac cgagctcgga tccctagtaa cggccgccag
                                                                         60
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg taccatgctg acttcttggt
                                                                        120
atcttttaag gcctaatttt cccttccttg agattactgt agtgtgttcc agctaatttc
                                                                        180
tatttggaaa cgagttggaa cagctgaaaa ctaggtatta ttgaaggcaa agcagcctca
                                                                        240
cgtcagtttt ttatcagctc atttgggaag ttttttttt ttttttaa ttaattagaa
                                                                        300
agtaggetgg acaeggtgge teatgeetat aateecagea ettggggagg eegaggatet
                                                                        360
cctctctggt ggatcacttg agggcaggag ttaagagacc atcctqqcca acatqatqaa
                                                                        420
accetgeete tactaaaaat acaaaaagta netgggegtg gtggcatact ettacaatce
                                                                        480
cagctacttg ggaggctgag gca
                                                                        503
      <210> 191
      <211> 829
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (829)
      <223> n = A,T,C or G
      <400> 191
gggcctctga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                        60
cgtggtcgcg gccgaggtac ttttttttt tctttttta catctgattt taatgcttcg
                                                                       120
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt
                                                                       180
cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                       240
tagaaagcct tactgtagga tttttaaaaa aaaatccatc tcaccccata ttggtcttaa
                                                                       300
ataagtatag actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
                                                                       360
atatgtgaga aaaacctgaa tataggacag gggtcctact tttttcccca cctctgtcgc
                                                                       420
ccaggctaga gtatagtggt gtgatcttgg cccactgcaa cctctgcttc ctaggttcaa
                                                                       480
gtgattetee tgeeteagee teccaagtag etgggattgt aagagtatge caccaegeee
                                                                       540
agctactttt tgtattttta gtagagacag ggtttcatca tgttggccag gatggtctct
                                                                       600
taacteetge ceteaagtga teeaceagag aggagateet eggeetneee aagtgetggg
                                                                       660
attataggca tgagccaccg tgtccagcct actttctaat taattaaaaa aaaaaaaaa
                                                                       720
```

60

120

180

240

300 360

aaactttcca aatgagctga taaaaaactg acgtgaggct gctttgcctt caataatacc 780 tagttttcag ctgtccaact cgtttccaaa tagaaattaa gctgggang 829 <210> 192 <211> 503 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(503) <223> n = A,T,C or G<400> 192 ntatqaccat gattacgcca agcttggtac ccgagctcgg atccactagt aacggccgcc 60 agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtactgcct ttgggcttct 120 totototot gttttotoot otogaattot ttactgtttt aatacattgt tottotgget 180 gaggetggte aaagetacae tgatetteaa ataaaggete gteaatgeta eactgttett 240 caagcaacgg ctggtgaact tgttctgaca aaggatggtc gacttttctt gcttgcttcc 300 tatgtctttc ctcttcagct aaatagagat gtttcagatt atctgggtat cgatctgtga 360 attgagattc cagtgacgtt tgagccttct tttccttccg tagcaatttc ttgtaacttt 420 gctgtatttt cagttttctt cgaaaagcaa agccttgtcc ctcgcgaacg ctccccacga 480 503 agcttgcggg tggttaggcc gca <210> 193 <211> 834 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(834) <223> n = A,T,C or G<400> 193 60 aneggetete tagagetget egaeggeege catgtgatgg atatetgeag aattegeeet tagcgtggtc gcggcncgag gtacaattca ttatgtgttt cattaattac ctttattaaa 120 aacaacacaa ttatattaca atagggacaa aaaatgttta agcaaatgaa aacgaaacca 180 240 tgacataccc aaactcagga ggaggcaaca aaggcagtgc taaagggaag cttacagctc cagatgetta aattaaaaag aagaaagate teaaaceeat getaaaggga agettacage 300 tacagateet taaattaaaa agaagaaaga teteaaacee atgetaaagg gaagettaca 360 gctgcagatg cttaaattaa aaagaagaaa gatctgaaac ccttgctaaa gggaagctta 420 . tagctgcagg tgcttaaatt aaaaagaaga aagatctcaa atcaataacc taacattaca 480 cctgaagggg gggaaaaaaa ctaatgacaa accaagcaaa aggaagaaaa taacagatta 540 gagcagagat aagcagaata agaccagaaa aaaggaaaaa aacactgagt ttgtttttt 600 660 aaagatcaat aaaaatttta aaactcacag ctatattaag aaaaaagaga aatctcaaat actaaaatca taagtaaaag angtgacagt acaggaataa gaatgtgaga cagaagacat 720 ggcggcctac cacccgcaag ccttcgtggg gagcgttcgc ganggacaag gctttgcttt 780 tcgaagaaaa ctgaaaatnc cgcaaagttc cagaaattgt tcngaagaaa agaa 834 <210> 194 <211> 502 <212> DNA <213> Homo Sapien <400> 194

cacttgacct gattcgccaa gcttggtacc gagctcggat ccctagtaac ggccgccagt

gtgctggaat tcgccctttc gagcggccgc ccgggcagga cgctgaggcc tgggagtctc

ttgactccac tacttaattc cgtttagtga gaaacctttc aattttcttt tattagaagg

accccatttt ctgtggtttg ggctccacat tgcaatgttc aatgccacgt gctgctgaca

ccqaccqqaq tacctcqqcc gcgaccacgc taagggcgaa ttctgcagat atccatcaca

gccagcttac tgttggtggc aaaattgcca acataagtta atagaaagtt ggccaatttc

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ctggcggccg ctcgagcatg catctagagg gcccaattcg ccctatagtg agtcgtatta
                                                                       420
caattcactg gccgtcgttt tacaacgtcg tgactgggaa aaccctggcg ttacccaact
                                                                       480
taatcgcctt gcagcacatc cc
                                                                      502
      <210> 195
      <211> 848
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(848)
      <223> n = A, T, C or G
      <400> 195
gnnnnnntt tnnaatgggc ctctnnagca tgctcgagcg gccgccatgt gatggatatc
                                                                       60
tgcagaattc gcccttagcg tggtcgcggc cgaggtactc cggtcggtgt caqcaqcacq
                                                                      120
tggcattgaa cattgcaatg tggaqcccaa accacagaaa atggggtgaa attggccaac
                                                                      180
tttctattaa cttatgttgg caattttgcc accaacagta agctggccct tctaataaaa
                                                                      240
gaaaattgaa aggtttctca ctaaacggaa ttaagtagtg gagtcaagag actcccaggc
                                                                      300
ctcagcgtcc tgcccgggcg gccgctcgaa agggcgaatt ccagcacact ggcggccgtt
                                                                      360
actagtggat ccgagctcgg taccaagctt ggcgtaatca tggtcatagc tgtttcctgt
                                                                      420
gtgaaattgt tatccgctca caattccaca caacatacga gccggaagca taaagtgtaa
                                                                      480
agcctggggt gcctaatgag tgagctaact cacattaatt gcgttgcgct cactgcccgc
                                                                      540
tttccagtcg ggaaacctgt cgtgccagct gcattaatga atcggccaac gcgcggggag
                                                                      600
aggeggtttg egtattggge getetteege tteetegete actgaetege tgegeteggt
                                                                      660
cgttcggctg cggcgagcgg tatcagctca ctcaaaggcg gtaataccgg tattcacaga
                                                                      720
attcagggga taacgcagga aagaacatgt gagcaaaagg ncagccaaag gccaggaacc
                                                                      780
cgtnaaaagg ccgcgttgct ggcgttnttc cataggctcc gccccttga cgagcatnac
                                                                      840
aaaaatct
                                                                      848
      <210> 196
      <211> 511
      <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1)...(511)
      <223> n = A, T, C \text{ or } G
      <400> 196
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                                                                       60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactttttt ttttttttt
                                                                      120
180
aaaaaagttt acaaaagaaa aaaagatnca gaaaaagaat aacttgcttc atatgtccca
                                                                      240
aaaagagaaa aaaataaagg ggacaatgcc aacatgctca acaataaagg cttctttttc
                                                                      300
ttatttttt aatacaaaat ncaagcaaag gatacacata cttaaaacag agctcaggag
                                                                      360
canacacgca ntcctggaaa cccttcaata aaancaaagc aggagtttgn tttttctttg
                                                                      420
tctatgcana tacatacaga gactgggata tgtaaaaatt aagtatnaca aaagaccatt
                                                                      480
acacgattct accaatgcat gttgcatctn g
                                                                      511
     <210> 197
     <211> 816
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc feature
     <222> (1) . . . (816)
     <223> n = A, T, C \text{ or } G
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<400> 197
 gggcctctag agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                             60
 cgagcggccg cccgggcagg tactaaggaa gttaaagttt gaatgtaacc actttattta
                                                                            120
 aaaggttttt ttctttaatt taaatgaaat ggggttgaag tgaacatgat tttgttgacc
                                                                            180
 atgttcgtga attacagatg caacatgcat tggtagaatc gtgtgatggt cttttgtgat
                                                                            240
 acttaatttt tacatatccc agtctctgta tgtatctgca tagacaaaga aaaaacaaac
                                                                            300
 teetgetttg ettttattga agggttteea ggaetgegtg tetgeteetg agetetgttt
                                                                            360
 taagtatgtg tatcctttgc ttgtattttg tattaaaaaa ataagaaaaa gaagccttta
                                                                            420
 ttgttgagca tgttggcatt gtccccttta ttttttctc tttttgggac atatgaagca
                                                                            480
 agttattett tttetgtate ttttttett ttgtaaactt tttttttgtt ttgttaaaa
                                                                            540
 atggctttat aaaagggctt ttataaccct aaaaaaaaa aannnnnna aaaaaaaaa
                                                                            600
 gtcctcggcc gcgaccacgc taagggcgaa ttccagcaca ctggcggncg ttactagtgg
                                                                            660
 atccgagete ggaccaaget tggcgtaate atggneatag etgtteetgt gtgaaatgtt
                                                                            720
 atccgctcac aattcccaca catacaaccc ggagcataaa gtgtaaacct ggggtgccta
                                                                            780
 atgagtgage tactcaataa ttgcgttgcg ctcang
                                                                            816
       <210> 198
       <211> 498
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(498)
       <223> n = A, T, C or G
       <400> 198
tgattcgcca agcttggtac cgagctcgga tccactagta acggcccgcc agtgtgctgg
                                                                             60
aattcgccct tcgagcggnc gnccgggcag gtacaattca gagcaggtgt ccatagaaac aactaggntt gaaaaaactg taagacaatt cacagttgaa atcaaaccaa cactgtgaat
                                                                           120
                                                                           180
gtgttaaata cttgccatat aacaacactt taacattgat cttgctaaat aaggctatga
                                                                           240
ttcataagat gcatggattt ccaaagctgn ttaacattct tataaattaa ttcacaggat
                                                                           300
tcaaatagtt gctttttagc ttcaactggg tattagcaaa aatnatacaa aatgatcccc
                                                                           360
gtgcaagcac aaatttacct tccttctaaa taaaacatga cagattatat tacaacttga
                                                                           420
tagectetet tttaaaaagt etgtgaeatt attaaagagg tgaeggaatg ettgntttge
                                                                           480
aaaccccaac acatcttt
                                                                           498
       <210> 199
       <211> 837
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(837)
      <223> n = A, T, C or G
      <400> 199
nnnnnnntnn cantgggcct ctagagctgc tcgacggccg ccatgtgatg gatatctgca
                                                                            60
gaattcgccc ttagcctggt cgcggccgag gtaccttgag atctgagcaa ctgtgttaat
                                                                           120
gaagtaatag caatggtcca cagtgaaaga tgtgttgggg tttgcaaaac aagcattccg
                                                                           180
tcacctettt aataatgtca cagaettttt aaaagagagg ctatcaagtt gtaatataat
                                                                           240
ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat cattttgtat
                                                                           300
tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg tgaattaatt
                                                                           360
tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag ccttatttag
                                                                           420
caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac agtgtttgtt tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct atggacacct
                                                                           480
                                                                           540
gctctgaatt gtacctgccc gggcggccgc tcgaagggcg aattccagca cactggcggc
                                                                           600
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggtca tagctgnttc
                                                                           660
ctgtgtgaaa ttggtatccc gctcacaatt ccacacaaca tacgagccgg aagcataaag
                                                                           720
tgtaaagcct ggggtgccta atgagtgagc taactccatt aattgcgttg cgctcactgg
                                                                           780
cccgctttnc agtcnggaaa cctgtctgcc anctgcatta atgaatcggc caccccg
                                                                           837
```

```
<210> 200
       <211> 506
       <212> DNA
       <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(506)
      \langle 223 \rangle n = A,T,C or G
      <400> 200
nnnnttgacc tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                          60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tactgcatcc ataatttatc
                                                                         120
gccatgtgca acagctttgc gttttctaag gcacaatttt taatgaaatg atgtgtagat
                                                                         180
ttcaatctaa taacagctca tccaaatgac aaatatggtc gaaatccctc cagtggctga
                                                                         240
ggaaatttct gcacctatat ggaacccaca tgcaaagaac ccatctagca tgtaataaat
                                                                         300
aatcgctagc catactcaat aagacacgga aaaattattg cttacataac agaaaaacat
                                                                         360
ctacttgacc cccttttatq actacatcaa tctattaqqa qtqtatccat aqtctacatt
                                                                         420
cacaaaatgt catcttgact tatttgccat tgatttaagg cagaataaat agtcccctt
                                                                         480
tccccagtct taacaacaaa aaacaa
                                                                         506
      <210> 201
      <211> 864
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(864)
      \langle 223 \rangle n = A,T,C or G
      <400> 201
conntanage atgetegacg geogeologic caggitacett ggaagttatg teattaatat
                                                                         60
aggetggtte atcaaataaa geaaaacett geaatateag etagatttae acteegggae
                                                                        120
gttgcccaaa ggtaggaaga aagcaggggg aaatatttca gtcatcattt ccaaagtcat
                                                                        180
tatcaaaatc tgtgaggaag tttaatcttc caaagagtca atgtcagaca tcaggcctct
                                                                        240
gttgcctgct tctctcgagg cactagatta ggagtcttca ataagagact taacatgagg
                                                                        300
tatatggaag atgaggcacc gagataagtt catcattagg tgtgagcact gctcaccctt
                                                                        360
gctggcaagt tctccttaag ggcctgaagc acaggtgtcc aaagaaaagc gttaagtcca
                                                                        420
tettaataga atetatgtgg tatatgatgt ggteageece tggtetgtga teageaagaa
                                                                        480
cctacagcac agattatgcc ctgcccactt caatgaatac ctactctcct ncattctcca
                                                                        540
tcactttttt gctatcaaga ctccggacct tgcccatgga gaagtttaga gaggaactct
                                                                        600
tgtggagagc tggttaattt tctgccctgt gcgacaagtt tcaacttggc caagaaangg
                                                                        660
agtcaagtta ttaaaaagca tcacaatgta gaatcttcca ggctgggttt tttggntttt
                                                                        720
tnggtggttn aanactgggg gnaaaagggg ggacctattt aaattccngg cctttaaaat
                                                                        780
caaatgggcc aaaattaagt tcaaggaatg gaccattttt nggggnaaat ggttngaacc
                                                                        840
ttntngggan ttcccncctt ccct
                                                                        864
      <210> 202
      <211> 505
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(505)
      <223> n = A, T, C or G
      <400> 202
gnntnanacn nttnactaat antganttag tnccgactcg atccctctna ctncantnan
                                                                         60
ancgntngaa ttgcccttnn tagcggccnt ccngncaggt acaaccagtt tggaaaacag
                                                                        120
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```
tntcacagtt tttttaaaaa ttacatatac aaccancaac tgacccagcc atttcactcc
                                                                         180
taggtattta cccaagatna actgaagtgt agatacaagc anagacttgn gcacaagtgt
                                                                         240
tcatggtaag ctttactngc antagctcca aactanggac aactcaaata gccaacangg
                                                                         300
aaatggacaa attatgttac tttcatacag tggaatattc tcttgtgata aaaataantg
                                                                         360
aacanttgat acatggatga atctcaaaat aattatgctg agtaaaagaa gccagacaaa
                                                                         420
atgtacagtg catacagcta ttcatgtggg tgccagctcc atcccccagt gacctcttca
                                                                         480
tacggncaga gggtggcatg gcanc
                                                                         505
      <210> 203
      <211> 819
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(819)
      <223> n = A,T,C or G
      <400> 203
ggcctcngca gcatgctcga neggccgcca tgtgatggat atctgcagaa ttcgccctta
                                                                         60
gcgtggtcgc ggccgaggta cgcgggagag caggaccgga gcgcgggcca agctggagat
                                                                         120
ggatgatgct gaccetgagg aaagaaacta tgacaacatg etgaaaatge tgtcaqatet
                                                                         180
gaataaggac ttggaaaagc tattagaaga gatggagaaa atctcagtgc aggcgacctg
                                                                         240
gatggcctat gacatggtgg tgatgcgcac caaccctacg ctggccgatt ccatgcgtcg
                                                                         300
gctggaggat gccttcgtca actgcaagga ggagatggag aagaactggc aagagctgct
                                                                         360
gcatgagacc aagcaaaggc tgtaggcccc actggcccac cacagctgcc atgccaccct
                                                                         420
ctgcccgtat gaagaggtca ctgggggatg gagctggcac ccacatgaat agctgtatgc
                                                                         480
actgtacatt ttgtctggct tcttttactc agcataatta ttttgagatt catccatgta
                                                                         540
tcaattgttc acttattttt atcacaagag aatattccac tgtatgaaag taacataatt
                                                                         600
tgtccatttc cctgttggct atttgagttg tccctagttt ggagctattg cgagtaaagc
                                                                         660
taccatgaac atttgtgcac aagtetttgc ttgtatctac acttcagttt atcttgggta
                                                                         720
aatacctang agtgaaatgg cttgggtcaa tntgttggtt ggatatgtaa ttttttaaaa aaaactgnga tactgtttc caaactgggt tgtccctct
                                                                         780
                                                                         819
      <210> 204
      <211> 840
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (840)
      <223> n = A,T,C or G
      <400> 204
                                                                         60
gnnnnntttn nnctnntgga accepttttg nnaagetget egaeggeege catgtgatgg
atatetgeag aattegeeet tagegtggte geggeegagg tacettnaga tetgageaac
                                                                        120
tgtgttaatg aagtaatagc aatggtccac agtgaaagat gtgttggggt ttgcaaaaca
                                                                        180
agcattccqt cacctcttta ataatqtcac agactttttt aaaaqaqaqq ctatcaaqtt
                                                                        240
gtaatataat ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat
                                                                        300
cattttgtat tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg
                                                                        360
tgaattaatt tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag
                                                                        420
ccttatttag caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac
                                                                        480
agtgtttgtt tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct
                                                                        540
atggacacct getetgaatt gtaccectea gteaccagea aaageattte cacceettte
                                                                        600
aacccccaat cagaccactg cattcagtgg tattggagga ctttcatcac agcttccagt
                                                                        660
aggtgggtet tggcacagge agnetgaetg gtatangaac tggtgetett ggaeteeetg
                                                                        720
cagtgaataa cgaccetttt gtacetgeee gggeggeege taagggegaa ttecacacac
                                                                        780
                                                                        840
tggccggccg ttactagtng gatccnaact cggtccaaan cttggcgtat tcatggtcnt
      <210> 205
```

<210> 205 <211> 497

```
<212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(497)
       <223> n = A, T, C or G
       <400> 205
 nnnnttgacc tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                            60
agtgtgctgg aattcgcct tagcgtggtc gcggccgagg tacatttact ataaaagctg ttgcatttta gacaacttgt tgtttttatt ttttactgtt tctcagaggc attttagaat
                                                                           120
                                                                           180
aaatacttta aatgaaagtt agtataaccg atatagaaca ctggcccacc cagagcagta
                                                                           240
acatettttg gaeggaetea catatgaggt ggateattte agtttgttaa atettacaet
                                                                           300
gtgtatagat aactataata tgtattgcat taatcacact acatagaaag gaaatgtcat
                                                                           360
ggaagttcgc tagtgaaaaa caaaaagtta cccattattt ttattaaaga gtagggacta
                                                                           420
gcttttggag tatgagaaaa aaaatcagat atacttcctc aggaacaata aatcactcac
                                                                           480
ttgcctcacc tgttttt
                                                                           497
       <210> 206
       <211> 820
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(820)
       <223> n = A, T, C or G
       <400> 206
gggcctntag aagcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                            60
tttcgagcgg ccgcccgggc aggtacatgt attgaagcta gaatcgagtc aagaaaaata
                                                                           120
aagccccatt ctccaactgc aaaatgtgct ttcccataat gaacactagt caccagcaca
                                                                           180
gaataatctc caacattttc taaattctaa ttgccaactg tttctattta tatttgattt
                                                                           240
atatttcatt tggagtctgt tacatggcag cttaggcaga ctagatcttg ttttttccaa
                                                                           300
tgcagcataa tgagtatgat ctatttcttt tcaaataatc tttgagatcc caggaaaaaa
                                                                           360
aatgctctgc tccattgagc tataatgtaa atgtgtttgt ttaaaaaaca ggtgaggcaa
                                                                          420
gtgagtgatt tattgttcct gaggaagtat atctgatttt ttttctcata ctccaaaagc
                                                                          480
tagtccctac tctttaataa aaataatggg taactttttg tttttcacta gcgaacttcc
                                                                          540
atgacatttc ctttctatgt agtgtgatta atgcaataca tattatagtt atctatacac
                                                                          600
agtgtaagat ttaacaaact gaaatgatcc acctcatatg tgagtccgtc caaaagatgt
                                                                          660
tactgctctg ggtgggccag tgttctatat cgggtatact aactttcatt taaagtattt
                                                                          720
attctaaaat gcctctgaga aacagtaaaa ataaaaacca caagttgcta aaatgcaaca
                                                                          780
gcttttatag taaatgtcct tgggccgcga ccacgcttag
                                                                          820
      <210> 207
      <211> 496
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      '<222> (1)...(496)
      <223> n = A, T, C \text{ or } G
      <400> 207
cnnttgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
                                                                           60
gtgtgctgga attcgccctt agcgtggtcg cggcccgagg tacaaaagac aaaatcagag
                                                                          120
ttcaatttca gcagcaagac ttatcaagaa tttaatcact atttgacatc aatggttggt
                                                                          180
tgcctgtgga cgtccaaacc ctttgggaaa ggaatatata ttgaccctga aatcctagaa
                                                                          240
aaaactggag tggctgaata taaaaacagt ttaaatgtag tccatcatcc ttctttcttg
                                                                          300
```

agttacgctg tttccttttt gctacaggaa agcccagaag aaaggacagt aaatgtgagc

```
tctattcngg gaaagaaatg gagctggtat ttggactatt tattttcaca ngggttacaa
                                                                           420
ggcttgaaac tttttataag aagtagtggt catcattctt ncattcccag agcagaaggc
                                                                           480
ataaactgca caatca
                                                                           496
       <210> 208
       <211> 810
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(810)
       <223> n = A, T, C or G
       <400> 208
gcatgctcga cggcccgcca gtgtgatgga tatctgcaga aattcgccct ttcgagcggc
                                                                           60
cgcccgggca ggtactcctt gaggatggca gtctgtcagt gaaatgaaaa tgggaactca
                                                                           120
agatgagcca ctttgctcta gcaatgagga gtgagtttag tccagtgtgt tcagtttatg
                                                                          180
tcaacattca tttaatattg attgttgcag tttatgccct ctgctctggg aatggaagaa
                                                                          240
tgatgaacac tacttcttat aaaaagtttc aagccttgta acccctgtga aaataaatag
                                                                          300
tccaaatacc agctccattt ctttccccga atagagctca catttactgt cctttcttct
                                                                          360
gggctttcct gtagcaaaaa ggaaacagcg taactcaaga aagaaggatg atggactaca
                                                                          420
tttaaactgt ttttatattc agccactcca gttttttcta ggatttcagg gtcaatatat
                                                                          480
attectttee caaagggttt ggacgteeac aggeaaceaa ceattgatgt caaatagtga
                                                                          540
ttaaattctt gataagtctt gctgctgaaa ttgaactctg attttgtctt ttgtacctcg
                                                                          600
gccgcgacca cgctaagggc gaattccagc acactggcgg ccggtactag tggatccgag
                                                                          660
ctcggtccaa gcttggcgta atcatgggca tagctgtttc ctggtgtgaa attgntatcc
                                                                          720
gctcacaatt ccacacaaca tacgaaccgg aagcattaag tgtaaagcct ggggtgccta
                                                                          780
atgagtgagc taacttacat taattgcgnt
                                                                          810
      <210> 209
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(495)
      <223> n = A, T, C or G
      <400> 209
cnnttgacct gattacgcca agettggtac cgagetegga tecetagtaa eggeegeeag
                                                                           60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caactctcca gggcacaata cgtttacagc tgcctttcct tcacatactt ttctaattca gaactactca caattctaag
                                                                          120
                                                                          180
caaattccca ttcacgaagt ctgtccataa tgcgaccttc tcttttttta acatatacat
                                                                          240
cttaaaaaac aaatatataa aaaattctta ttttgctgga atgctttcaa tttttcacat
                                                                          300
tttacatgat catcacattt atttettata ttgaaaggea tggtttetgt tgacatgteg
                                                                          360
tgcaaagcca aaaaaaaaa anaaaaaaaa aagggctgga ttgcttttca attggtctaa
                                                                          420
cacttttcct tgtctaggct ttggatttta aagttcatga cagccccacc accagtagaa
                                                                          480
accccaaggc ttgca
                                                                          495
      <210> 210
      <211> 820
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(820)
      <223> n = A, T, C or G
      <400> 210
```

```
gggcctcaga gctgctcgan cggccgccat gtgatggata tctgcagaat tcgccctttc
                                                                           60
gageggeege eegggeaggt acceaegttt tgeteeacae teettgaceg eaqqqeteq
                                                                          120
gacacaaacc cctgtcacca ggagagtcag tcagcactac ttgggagggc taaagggaaa
                                                                          180
tttggaaata aaattccaaa gtttggagta aaaaaattca agtgttgatt ttatattctt
                                                                          240
tecetttetg acacageeta aagegtaggg ggaacatgtg tttatetgtg ggagataaae
                                                                          300
aagatggagt cccaaagact ttaacaaaat attttttaa aaatccacta gaatagaaaa
                                                                          360
tacattattt agatatactt tatgctgaga gtgagtatat atgcttgtcc tatttaaact
                                                                          420
tgtgagaaaa agtggtatcc cttgatacat ttagaaatat gggggctatc ttgtttcatt
                                                                          480
gtgggggtgg ggcagaagga gaataaatgc aggatgaccc tgttgaagga atcttancat
                                                                          540
ggccaacagg ggacgtttcc agtcgattac caggaaatgc aagccttggg gtttctactg
                                                                          600
gtggtggggc tgtcatgaac tttaaaatcc aaagcctaga caaggaaaag tgttagacca
                                                                          660
attgaaaagc aatccagccc tttttttttt nnnntttttt tttggctttg cacgacatgt
                                                                          720
caacagaaac catgcctttc aatntaagga aataaatgtg atgatcatgt aaaatgtgaa
                                                                          780
aaattgaaag cattncacca aataaggaat tttttatttn
                                                                          820
      <210> 211
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(499)
      \langle 223 \rangle n = A,T,C or G
      <400> 211
canttgactg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                           60
tgtgctggaa ttcgccctta gcgtggtcgc ggcccgaggt acaactctcc agggcacaat acgtttacag ctgccttcc ttcacatact tttctaattc agaactactc acaattctaa
                                                                          120
                                                                          180
gcaaattccc attcacgaag tctgtccata atgcgacctt ctctttttt aacatataca
                                                                          240
tcttaaaaaa caaatatata aaaaattctt attttgctgg aatgctttca atttttcaca
                                                                          300
ttttacatga tcatcacatt tatttcttat attgaaaggc atggtttctg ttgacatgtc
                                                                          360
gtgcaaagcc aaaaaaaaaa aaaaaaaaaa aagggctgga ttgcttttca atngggtcta
                                                                          420
acacttttcc ttgtctaggc tttggatttt aaagttcatg acagccccac caccagtaga
                                                                          480
aaccccaagg cttgcattt
                                                                          499
      <210> 212
      <211> 821
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (821)
      <223> n = A,T,C \text{ or } G
      <400> 212
gggcccntan agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                          60
tegageggee geeegggeag gtaceeaegt tttgeteeae acteettgae egeagggget
                                                                         120
cggacacaaa cccctgtcac caggagagtc agtcagcact acttgggagg gctaaaggga
                                                                         180
aatttggaaa taaaattcca aagtttggag taaaaaaatt caagtgttga ttttatattc
                                                                         240
tttccctttc tgacacagcc taaagcgtag ggggaacatg tgtttatctg tgggagataa
                                                                         300
360
aatacattat ttagatatac tttatgctga gagtgagtat atatgcttgt cctatttaaa
                                                                         420
cttgtgagaa aaagtggtat cccttgatac atttagaaat atgggggcta tcttgtttca
                                                                         480
ttgtggggt ggggcagaag gagaataaat gcaggatgac cctgttgaag gaatcttagc atggccaaca ggggacgttt ccagtcgatt accaggaaat gcaagccttg gggtttctac
                                                                         540
                                                                         600
tggtggtggg gctgtcatga actttaaaat ccaaagccta gacaaggaaa agtgttagac
                                                                         660
caattgaaaa gcaatccagc cettttttt ttttttttt ttggetttgc acqacattgt
                                                                         720
taacagaaac catgcctttc aatattagaa ataaatgtga tgatcatgtt aaatgtgaaa
                                                                         780
aattggaagc cttcagcaaa ataagaattt ttatttnttt n
                                                                         821
```

```
<210> 213
       <211> 497
       <212> DNA
       <213> Homo Sapien
       <400> 213
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                          60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caaaacaata qtctaaacta
                                                                         120
acacgaactg ttacctggtc tattaaagga tacacggtat ccactaaaca qacaqatcct
                                                                         180
tatttccctg cttgatgttg caaagccctt ggcaaccagg ggcaaaggtc actggggttt
                                                                         240
gactaactgg ggctgagtgg cagctatgac tgtccttcag atttttgagt tgtttttgaa
                                                                         300
attaaaagct tctaaaagtt gcatcaacat cctcctaagc ccccatagga ttgtaacacc
                                                                         360
accacaaaag gccaccaaca ctttttaaac aaagtgaaaa ctgtctgaca ccaatcatct
                                                                         420
tgaaaactcc atggcaagtg cattagctat gatttcatca cttacaggta gagaagctta
                                                                         480
ctgtctactg gtgtggg
                                                                         497
      <210> 214
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(817)
      <223> n = A, T, C or G
      <400> 214
ggccttanag ctgctcgncg gccgccatgt gatggatatc tgcagaattc gccctttcga
                                                                         60
gcggccgccc gggcaggtac tctcagtcat atgcagaaat acttttttt taattaataq
                                                                        120
ttacaggett gttggtccag tgggatttgg gtagggggag aaagatacet tetaaaatgg
                                                                        180
atcaatagaa ccaaaataat acagcatgtt ctataaccac aaggaaatca aatgatcctg
                                                                        240
tcatgattcc agttagtcat aaccatgtta gcagtgctaa atgcatttta gaaatggtga
                                                                        300
cttctgtggt tttcctagca tttgtctcta acaaatggtg aaataattac tcatggccct
                                                                        360
ctctgccatt gtctttcatt ttttcacagt gaaattagac ccctttactt caccattctg
                                                                        420
ccactgcaaa ttaagtataa agaaaatagc aagagtgtcc acaccagtag acagtaagct
                                                                        480
tetetacetg taagtgatga aateataget aatgeacttg ceatggagtt tteaagatga
                                                                        540
ttggtgtcag acagttttca ctttgtttaa aaagtgttgg tggccttttg tggtqqtgtt
                                                                        600
acaatcctat gggggcttan gaggatgttg atgcaacttt tagaagcttt taatttcaaa
                                                                        660
aacaactcaa aaatctgaag gacagtcata gctgccactc agccccagtt agtcaaaccc
                                                                        720
cagigacett tgcccetggt tgccaaggge tttgcaacat caagcangga aataaggate
                                                                        780
tgnctgttag tgggataccg ggtatccttt aatagac
                                                                        817
      <210> 215
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(495)
      <223> \dot{n} = A,T,C \text{ or } G
      <400> 215
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                         60
tgtgctggaa ttcgccctta gcgtggtccg gccgaggtac catgctgact tcttggtatc
                                                                        120
ttttaaggcc taattttccc ttccttgaga ttactgtagt gtgttccagc taatttctat
                                                                        180
ttggaaacga gttggaacag ctgaaaacta ggtattattg aaggcaaagc agcctcacgt
                                                                        240
cagtttttta tcagctcatt tgggaagttt ttttttttt ttttttaatt aattagaaag
                                                                        300
taggetggge aeggtggete atgeetataa teecageaet tggggaggee gaggatetee
                                                                        360
tetetggtgg ateaettgag ggeaggagtt aagagaeeat eetggeeaac atgatgaaac
                                                                       420
cctgtctcta ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca
                                                                        480
gctacttggg aggcn
                                                                        495
```

```
<210> 216
      <211> 823
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (823)
      <223> n = A, T, C \text{ or } G
gggcctcaga gcatgctcgn cggccgccag tgtgatggat atctgcagaa ttcgcccttt
                                                                         60
cgagcggccg cccgggcagg tactttttt tctttttta catctgattt taatgcttcg
                                                                        120
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                        180
                                                                        240
tagaaagcct tactgtagga tttttaaaaa aaaatccatc tcaccccata ttggtcttaa
                                                                        300
ataagtatag actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
                                                                        360
atatgtgaqa aaaacctgaa tataggacag gggtcctact tttttcccca cctctgtcgc
                                                                        420
ccaqqctaqa qtatagtggt gtgatcttgg cccactgcaa cctctgcttc ctaggttcaa
                                                                        480
gtgattctcc tgcctcagcc tcccaagtag ctgggattgt aagagtatgc caccacgccc
                                                                        540
agetaetttt tgtatttita gtagagaeag ggttteatea tgttggeeag gatggtetet
                                                                        600
taactcctqc cctcaaqtga tccaccaqag aggagatcct cggcctnccc aagtgctggg
                                                                        660
720
aaaaacttnc caaatgagct gatnaaaaac tgacgtgang ctgctttgcc ttcaataata
                                                                        780
cctagttttc actggtccaa ctcgtttcca aatagaaatt acg
                                                                        823
      <210> 217
      <211> 827
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (827)
      \langle 223 \rangle n = A,T,C or G
      <400> 217
nnnnnnngc etntnnagea tgetegaegg cegecatgtg atggatatet geagaatteg
                                                                         60
                                                                        120
ccctttcgag cggccgcccg ggcaggtact gtatcattgg cagatgtgac gtcaccgaca
                                                                        180
accagagtga agtggcggac aaaactgagg attacctgtg gctgaagttg aaccaagtgt
gttttgacga cgatggcacc agctccccac aagacaggct cactctctca cagttccaga
                                                                        240
agcagttgtt ggaagactat ggcgagtccc actttacggt gaaccagcaa cccttcctct
                                                                        300
acttccaagt cctgttcctg acagcgcagt ttgaagcagc agttgccttt cttttccgca
                                                                        360
tggagcggct gcgctgccat gctgtccatg tagcactggt gctgtttgag ctgaagctgc
                                                                        420
ttttaaagtc ctctggacag agtgctcagc tcctcagcca cgagcctggt gaccctcctt
                                                                        480
                                                                        540
gettgeggeg getgaactte gtgeggetee teatgetgta ceteggeege gaceaegeta
agggcgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg taccaagctt
                                                                        600
                                                                        660
ggcgtaatca tggtcatagc tgtttcctgt gtgaaattgt tatccgctca caattccaca
caacatacga gccgqaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact
                                                                        720
                                                                        780
cacattaatt gcgttgcgct cactgcccgc ttttcaatcg ggaaacctgt cgtgccagct
                                                                        827
gcattaatga atcgqncaac gccccgggan aagcggtttg cgtattt
      <210> 218
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <400> 218
cacttgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
                                                                         60
gtgtgctqqa attcgccctt tcgagcggcc gcccgggcag gtactttttt ttttttttt
                                                                        120
taattcccac aacaacccat ttcaaaatga gaaaactagg ttgagtgact tgtccacagt
                                                                        180
```

tccaaagcta ataaaaatga tgaggcatat ttctcttctg ggcccactgt attcagttct ttgttcttta cactgagtgc cgaaaaaaaa aaatcagact attttgattc tagaaagtga gataattgaa aatgttaaca tatttctcca aaactgatca gactgtggag tctgtcactt ttttggtata ataaaggagt ttgaagaaac aaatgacatc attcctgatg atggtagccc actccaacaa aggcgtatat atgtaggcaa gtttgaagat atctataaga gcattaaaag gcaagtgcac cattgtgg	240 300 360 420 480 498
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<210> 220 <211> 497 <212> DNA <213> Homo Sapien	
<pre><400> 220 cacttgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca gtgtgctgga attcgccctt tcgagcggc gcccgggcag gtacagccat gaaattgttg ctactcatag aaagtcttag tatagtttgg tttaaacatt ttaaaattgc aaataaatat agatagataa tatcatgatg agaaggtcac gggaagcctg gagatttcag ggtgctcttt cataattgga gcgagaatca tgtaacagtt aagaaactaa actcttgagc cttcatagtc tttgctttct ccccatttat ttatctgata ttatataccc tctttaatta tagactggac tgaaatattt tattttgtt ttattataaa aaatcctact cgtctttaac atgttctctt aaagagtgtt tcatatataa atactttccc cccaaaatat aaagaggcta accactatag tattgaaaga</pre>	60 120 180 240 300 360 420 480 497
<210> 221 <211> 831 <212> DNA <213> Homo Sapien	
<220> <221> misc_feature <222> (1)(831) <223> n = A,T,C or G	
<400> 221 cnnnannggg cctntanagc atgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg tggtcgcggc cgaggtacaa tgaaagtatg agctacctct ctgaagtctg	60 120

<220>

<221> misc_feature

gaaaccttga gagtattaag gttacatgca taaaatcttt aaaatggaag tgtcattaca 180 tggtaaacca attcaaatta aaaataatct catgctgtga aagcaaaata tataactqqt 240 ttacccattc ataggtaatt gcacgtcttt gttacatctc aatagtttct ttgtatttgt 300 tqcaatcacc ctccttcttc tcaacactct tttctacctc catgtaactg ctgttgtgaa 360 ttctttataa tattctcatc aatgtttaaa gatgaagttt aaagtgctta caaaggaagc 420 attttaactc ctcttagaac tgagccttta aatttggttt tagacaccct aggtctttct 480 ttcaatcttt caatactata giggttagcc tctttatatt ttggggggaa agtatttata 540 tatgaaacac totttaagag aacatgttaa agacgagtag gatttttat aataaaacaa 600 aaataaaata tttcagtcca gtctataatt aaagagggta tataatatca gataaataaa 660 tggggagaaa gcaaagacta tgaaggctca agagtttagt ttcttaactg gtacatgatt 720 ctcgctncaa ttatgaaaga gcaccctgaa atctncangc ttnccgtgac cttctcatca 780 tgatattatc tatctatatt tattgcaatt ttaaaatggt taaaccaaac n 831 <210> 222 <211> 497 <212> DNA <213> Homo Sapien <400> 222 cacttgacct gattacgcca agcttggtac cgagetcgga tecactagta acggecgcca 60 qtqtqctqqa attcgccctt agcgtggtcg cggccgaggt actctttctc tcccctcctc 120 tgaatttaat tettteaact tgeaatttge aaggattaca cattteactg tgatgtatat 180 tgtgttgcaa aaaaaaagtg tetttgttta aaattaettg gtttgtgaat eeatettget 240 tittececat tggaactagt cattaaccca tetetgaact ggtagaaaaa catetgaaga 300 gctagtctat cggcatctga caggtgaatt ggatggttct cagaaccatt tcacccagac 360 agcctgtttc catcctgttt aataaattag tttgggttct ctacatgcat aacaaaccct 420 gctccaatct gtcacataaa agtctgtgac ttgaagttta gtcagcaccc ccaccaaact 480 497 ttatttttct atgtgtt <210> 223 <211> 822 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(822) <223> n = A, T, C or G60 gggcctnaga gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgcccttcga 120 geggeegeee gggeaggtae tttattttea aaaaaeteat atgtegeaaa aaacacatag aaaaataaag tttggtgggg gtgctgacta aacttcaagt cacagacttt tatgtgacag 180 240 attggagcag ggtttgttat gcatgtagag aacccaaact aatttattaa acaggatgga aacaggctgt ctgggtgaaa tggttctgag aaccatccaa ttcacctgtc agatgccgat 300 agactagete tteagatgtt tttetaceag tteagagatg ggttaatgae tagtteeaat 360 420 qqqqaaaaaq caaqatqqat tcacaaacca agtaatttta aacaaagaca cttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag ttgaaagaat 480 540 taaattcaga ggaggggaga gaaagagtac ctcggccgcg accacgctaa gggcgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt accaagcttg gcgtaatcat 600 ggtcatagct gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag 660 720 ccqgaaqcat aaagtgtaaa gcctggggtg cctaatgagt gagctaactc acattaattg 780 cgttgcgctc actggccgct tttcagtcng gaaacctgtc gtgccagctg cattaatgaa teggecaacg egeeggaga ngengnttge gtattgggee en 822 <210> 224 <211> 494 <212> DNA <213> Homo Sapien

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```
<222> (1)...(494)
       <223> n = A, T, C or G
cncttgacnt gattacgcca agcttggtac cgagctcgga tccctagtaa cggccgccag
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tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta ctttttttt ttttttaac
                                                                         120
caactcaata tgtgtttgat gatagtgaat tgataaaacc cgaagctttt ccctgtaaat
                                                                         180
cttacatctt tgcctttaaa gaatgggtta caaccatcac tagatcacag tagtgcctaa
                                                                         240
tgaaggttga gaaccgtagg agaggctctc atgctgtaaa taatgttgca ggctaataac
                                                                         300
ctttcatcac ttcctttgtg cgcttcctgc cttaagtgac aagtagcaac atggcttggg
                                                                         360
teccetgtge ageateaget tatgetgeea caagteagtt tgeacectag gtgeecagga
                                                                         420
gctagtatcc ttagatcttt ctatcgctaa cttaattctc ttcgttattt atctgaccct
                                                                         480
ctaactccat qtct
                                                                         494
       <210> 225
       <211> 822
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      <221> misc_feature
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      <223> n = A, T, C \text{ or } G
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                                                                         60
agcggccgcc cgggcaggta ctttaatttt gcttgttcaa atgatctaca cttacatttt gcaaatcttt ttttttaaat tttttaaatt ttatatttt tttccagcca actcaaggcc
                                                                        120
                                                                        180
240
gtccacagaa taagacacaa gaaacctcaa gctgtgaggt caatttgtaa ttaaaagaat
                                                                        300
actaagatta gatgaacaca acactcagaa atactctagg agagctgaaa aagaaggaac
                                                                        360
agatgttaac aaaacaaatt aaggctgctg gggaacctga gtccatgtta agcttgggtt
                                                                        420
gactgtaaag aattttttt tttaatgcaa gttagacatg gagttagagg gtcagataaa
                                                                        480
taacgaagag aattaagtta gcgatagaaa gatctaagga tactagctcc tgggcaccta
                                                                        540
gggtgcaaac tgacttgtgg cagcataagc tgatgctgca caggggaccc aagccatqtt
                                                                        600
gctacttgtc acttaaggca ggaagcgcac aaaggaagtg atgaaaggtt attagcctqc
                                                                        660
acattattta cagcatgaga gcctctccta cggttctcaa ccttcattag gcctactgtg
                                                                        720
atctantgat ggntgtaccc attctttaaa ggcaaagatg taaggattta cagggaaaag
                                                                        780
cttcgggttt tatcaattca ctatcatcaa acacatattg ng
                                                                        822
      <210> 226
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (498)
      \langle 223 \rangle n = A,T,C or G
      <400> 226
anntaaacta tgacctgatt acgccaactt ggtaccgagc tcggatccac tagtaacggc
                                                                         60
cgccagtgtg ctggaattcg ccctttcgag cggccgcccg ggcaggtacc ctctcatata
                                                                        120
tgcaaacaaa tgcagactag gcctcaggca gagactaaag gacatctctt ggggtgtcct
                                                                        180
gaagtgattt ggacccctga gggcagacac ctaagtagga atcccagtgg gaagcaaagc
                                                                        240
cataaggaag cccaggattc cttgtgatca ggaagtgggc caggaaggtc tgttccagct
                                                                        300
cacatetnat etgeatgeag caeggacegg atgegeecae tgggtettgg etteceteec
                                                                        360
atcttctcaa gcagtgtcct tgttgagcca tttgcatcct tggctccagg tggctccctc
                                                                        420
agtotggact ctaccacttg ggtotccaga ttttctgtta cgtocttgtg ggtcaggata
                                                                        480
tttctggaag tcactccg
                                                                        498
```

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<211> 815
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
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       <223> n = A, T, C \text{ or } G
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gggcctctna agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                            60
cgtggtcgcg gccgaggtac attgatgggc tggagagcag ggtggcagcc tgttctgcac
                                                                           120
agaaccaaga attacagaaa aaagtccagg agctggagag gcacaacatc tccttggtag
                                                                          180
ctcagctccg ccagctgcag acgctaattg ctcaaacttc caacaaagct gcccagacca
                                                                          240
geactigit titigatiett etititteee tygeteteat cateetgeee agetteagte
                                                                           300
cattccagag tcgaccagaa gctgggtctg aggattacca gcctcacgga gtgacttcca
                                                                          360
gaaatatcct gacccacaag gacgtaacag aaaatctgga gacccaagtg gtagagtcca
                                                                          420
gactgaggga gccacctgga gccaaggatg caaatggctc aacaaggaca ctgcttgaga
                                                                          480
agatgggagg gaagccaaga cccagtgggc gcatccggtc cgtgctgcat gcagatgaga
                                                                          540
tgtgagctgg aacagacctt cctggcccac ttctgatcac aaggaatcct gggcttcctt
                                                                          600
atggetttge ttecaetggg attectaett aggtgtetge ceteaggggt ccaaateaet
                                                                          660
tcaggacacc ccaagagatg tcctttagtc tctgctgagg cctantctgc atttggttgc
                                                                          720
atatatgaaa aggtacctgc ccgggccggc cgttcnaang gcgaatttca gcacactggc
                                                                          780
ggncgntact agtggatccc aactcggtac caage
                                                                          815
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      <211> 512
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (512)
      <223> n = A,T,C or G
      <400> 228
annnnntttn acctannact atgacctgat tacgccaact tggtaccgag ctcggatcca
                                                                           60
ctagtaacgg ccgccagtgt gctggaattc gccctttcga gcggccgccc gggcaggtac
                                                                          120
taggtttgca aaaccaatag catgcacatg tgttgggctg aggttcatgt gtcagagact
                                                                          180
cagttgtaga aggaactttg aatctggcag gcacttaact gtggctgctc agaactaatg
                                                                          240
tatctggggc tgcttgagca ggggctgagg tcagaggcag ggagtgagct ctccatcatc cttgactcag acccagctcc gcaggagctc catggtcatc cctggagctc atgtggagtg
                                                                          300
                                                                          360
caaggtccgg gagtgggggc gctgacagaa acaaatctgg ggggatcagc cagggtcagc
                                                                          420
aggggacaga gatcatgtct tttagaagaa tgtgggcttc ctgacctata gaagggcagc
                                                                          480
tgttcacccc ctgcagatga tagcagggat ng
                                                                          512
      <210> 229
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A, T, C or G
      <400> 229
gggcctmaga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                           60
cgtggtcgcg gccgaggtac tttttttttt ttttttttt ttcagagata ggttcttact
                                                                          120
atgctgccct ggctggagtg cagtggcttt cttaggggca atcacagctc actgcagcct
                                                                          180
ggaactcctg ggctcagcct cctaagtagt tgagactacc aatgcacgcc accatacctg
                                                                          240
gccttagata ccccctgtat cctggaactc actccttata agagacactg aatgtggaaq
                                                                          300
```

<213> Homo Sapien

```
tcttcgcaga tattaagggc actgcccagt tcctgtcttt gaattattgg gccaacaaca
                                                                           360
gaaaggeget cetgaggeee cagateatee etgetateat etgeaggggg tgaacagetg
                                                                           420
cccttctata ggtcaggaag cccacattct tctaaaagac atgatctctg tcccctgctg
                                                                           480
accetggetg atcccccag atttgtttct gtcagcgccc ccactcccgg accttgcact
                                                                           540
ccacatgage tecagggatg accatggage tectgeggag etgggtetga gteaaggatg
                                                                          600
atggagaget cactecetge etntgacete ageceetget caageageee cagatacatt
                                                                          660
agttetgage ageccagtta agtgeetgee agatteaaag tteettetae aactgagtet
                                                                          720
ctgacacatg aaccttaagc ccaacacatg tgcatgctat tgggttttgc aaacctagta
                                                                          780
cctgnccggg cgggccgttc gaaangqcga attct
                                                                          815
       <210> 230
       <211> 502
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc feature
       <222> (1) . . . (502)
      <223> n = A, T, C \text{ or } G
       <400> 230
tnnanctana cttgacctga ttacgccaac ttggtaccga gctcggatcc actagtaacg
                                                                           60
gccgccagtg tgctggaatt cgccctttcg agcggccgcc cgggcaggta cacagagatg
                                                                          120
eggtecaget geaggteget gteceegtgg taggtgeegg tagggtegat gceatgttea
                                                                          180
tractgatra cetrecagaa ettggraceg atetggtage caractgare ageetggatg
                                                                          240
tgcacgattt ccctcatggt taaaatttaa tttttttgct cgcctcaagg tatgtatggg
                                                                          300
gcaagaaaat aagtaatttt ttttctccgc aggtcgcagg ctggaaggtt ggaatgcgcc
                                                                          360
ccagaggctg gagcagcgag gtgcaaacgc gacggcagga aggttctgag agccccgcgt acctcggccg cgaccacgct aagggcgaat tctgcagata tccatcacac tgcggccgct
                                                                          420
                                                                          480
cgagcatgca tctagagggc cc
                                                                          502
      <210> 231
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(817)
      <223> n = A, T, C or G
      <400> 231
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                                                                           60
agcgtggtcg cggccgaggt acgcggggct ctcagaacct tcctgccgtc gcgtttqcac
                                                                          120
ctcgctgctc cagcctctgg ggcgcattcc aaccttccag cctgcgacct gcggagaaaa
                                                                          180
aaaattactt attttcttgc cccatacata ccttgaggcg agcaaaaaaa ttaaatttta
                                                                          240
accatgaggg aaatcgtgca catccaggct ggtcagtgtg gctaccagat cggtgccaag
                                                                          300
ttctgggagg tgatcagtga tgaacatggc atcgacccca ccggcaccta ccacggggac
                                                                          360
agcgacctgc agctggaccg catctctgtg tacctgcccg ggcggccgct cgaaagggcg
                                                                          420
aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa gcttggcgta
                                                                          480
atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat
                                                                          540
acgagccgga agcataaagt gtaaagcctg gggtgcctaa tgagtgagct aactcacatt
                                                                          600
aattgcgttg cgctcactgc ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta
                                                                          660
atgaategge caacgegegg ggagaggeng nttgegtatt gggegetett cegettnete
                                                                          720
geteactiga etegetigeg eteggiegti engetigegg enanceggat teagettact
                                                                          780
taaaggcggt aataccggtt atccaccaga attangg
                                                                          817
      <210> 232
      <211> 481
      <212> DNA
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<400> 232
actatgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
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gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacaaattt gttgtgtttt
                                                                          120
ttatgttcta ataatactga gacttctagg tcttaggtta atttttagga agatcttgca
                                                                          180
tgccatcagg agtaaatttt attgtggttc ttaatctgaa gttttcaagc tctgaaattc
                                                                          240
ataatccgca gtgtcagatt acgtagagga agatcttaca acattccatg tcaaatctgt
                                                                          300
taccatttat tggcatttag ttttcattta agaattgaac ataattattt ttattgtagc
                                                                          360
tatatagcat gtcagattaa atcatttaca acaaaagggg tgtgaaccta agactattta
                                                                          420
aatgtettat gagaaaattt cataaageca ttetettgte atteaggtee agaaacaaat
                                                                          480
                                                                          481
      <210> 233
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(809)
      <223> n = A,T,C or G
      <400> 233
gggcctctnn agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgccctta
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gcgtggtcgc ggccgaggta caaaagatac tgttcacccc attagagaac tgatttgaag
                                                                          120
ttactcttcc ctgtgagggc tctgtcatct taactgtatt cacatacttt caactgttcc
                                                                          180
ccttgctgct aacctcaggt tctttagttc atctatctgg cagagctgat ttggggaaaa
                                                                          240
caagacaaac cttgtcaggt tttcttaata aataagcagt tgtcatgttt caagagtttt
                                                                          300
agaaatgagc aataatcaag gaagaggaca acgattgcat acgtttataa tatttagaac
                                                                          360
atcttttgcc acaataaaca ctggaaacca cccacttgtg gacaccaaac atttggattt gtatattttg tggcattccc tcactctaat cctctcatcc ttaaaaattt tcagaaattt
                                                                          420
                                                                          480
ttgcagcaac aaacactgat tgcaacatat gatttagggt agatttatga accatttttt
                                                                          540
cactgaaata catcaacagg agtgagtagt ctgagtgacc accccagcat ggagaaaact
                                                                          600
gtagtttaca gattettetg gageattttt atttetagat tgeagtggaa gtetaaccce
                                                                          660
ccttggagat gtctgcctta aagggtcttt ggccagggtc ctctgtagag ccatagtcca
                                                                          720
gatetactet atttgngtge teettacaae atcagaacag caactetcaa teeggateat
                                                                          780
cccagaatgc cgctgagtca cagcgtggg
                                                                          809
      <210> 234
      <211> 482
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (482)
      <223> n = A,T,C \text{ or } G
      <400> 234
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                          60
agtgtgctgg aattcgccct tcgagcggcc gcccgggcag gtactgaaaa gaagatagtg
                                                                          120
ccatttgaaa caacagatgc atcttttata cattttcaca agttngtttt tcatattttt
                                                                         180
aaaggcccca tttatctgta acagtggtat ttttatttag agtatcggct acttaatata
                                                                         240
tacatgcaac aatatatgct ttaatagtca tttaactttt angaatattt catnacatta
                                                                         300
agtggttaag catagcgtta aaagagtgga atataaggaa tannaanntn tngaaaatac
                                                                         360
gctgctannt tcattngcan actatagtag aatggagatg cccataaaag tgatcattgc
                                                                         420
ccaactgaat tectaeceng aactaacatg tgatteteaa gtgggganaa atattattaa
                                                                         480
                                                                         482
      <210> 235
      <211> 474
      <212> DNA
      <213> Homo Sapien
```

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<220>
       <221> misc_feature
       <222> (1) ... (474)
       <223> n = A, T, C \text{ or } G
       <400> 235
 acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                            60
 tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cattacttgg tgttaacatt
                                                                           120
 gttggcagtg gtagcccctt ttcagaaagc aacttgctgt aagtcagggt gtccgttcca
                                                                           180
 accttcagct agtgaaaagg tagtaacaaa tggtaaacaa gagaatgatt gtttaaacct
                                                                           240
 atctgtggac acttaatgca actgtttaaa aatgataatc acgagttatg tagcaacgtg
                                                                           300
 gaaatatatt tacagaacat taatggagaa gcagggacac gaagtatatt atactacagt
                                                                           360
 tataactcaa cagtcattat atgccggtca tttaccagtc atttaaccag ttcattataa
                                                                           420
 ctgtttaaaa atatatatgc ttatagtcaa aagctgttgt ggtgttgttg ttgn
                                                                           474
       <210> 236
       <211> 819
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) ... (819)
       <223> n = A, T, C or G
       <400> 236
gggccttnna gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                            60
gagcggccgc ccgggcaggt acttttttt ttttttttt tttttttt tttttatttt taactttatt
                                                                           120
tttattgntg acactattac agatagaatg accacaacca tattaacaaa ccaaaaacct
                                                                           180
gtgcacagaa acaagatgaa gaaaatatat caagatgtta aacacactct ttggatggtg
                                                                           240
aaaacatggg tgagtttctc ttctacattt ctgtaacttc aaaqtttcta taatqaacac
                                                                           300
atttcatata taatggaaat atatgtagta aaggtggact accaaaacac tagaatgatg
                                                                           360
acctttcaag gaaaccgaaa caaaataacc ataatcccac aacaaccaca caactatttc
                                                                           420
ttgnttttca tctttcttcc catctttgac atttatgcat acttatcact aacaccctaa
                                                                           480
taatcacaga ctagtgcaca gatcaagatg ttaacagtta attgttgttg ggtgttggga
                                                                           540
atatgtgtga attttettta etgaatttee aaagttitgt atgagtatgt attatatttg
                                                                           600
taatggaaaa tacatacata aaatttatta ccaaaacacc aaagattatt taagggaatt
                                                                           660
tgagacaaaa tatttaacca aattcccaca atgacaacac tattttagtt attttccaca
                                                                           720
tetttteatt taagaettta tgeacacata tttaacaetg gtateacaag egtgggeaet
                                                                           780
gaaacaagga tnganggaac nggatcagga tgttagccg
                                                                           819
       <210> 237
       <211> 483
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(483)
      <223> n = A,T,C or G
      <400> 237
agettgacet gattaegeea agettggtae egagetegga tecaetagta aeggeegeea
                                                                           60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actaagctca gcatgtctca
                                                                          120
tggtcaatta ctgcgtattt ccaaaaaatg tgttgtttgg tcttgagaaa attctttagc
                                                                          180
cccttgacac cagaattatc tccactgtag aaaaaataga caattatagt ctaacaggta aatcacaaaa attcttcagc cacacttcct gggttcaaat gtggtttttc tactcagtaa
                                                                          240
                                                                          300
tattgtaacc ctgggcaagt tatttaactt gtctaagtct cagtttctcc atctgtaaaa
                                                                          360
tgaggataat cacaatatct actacataat gttcttctga agatgtaatg agataatcca
                                                                          420
tgtnaaatat tcanacagca cataggaatg ggtcatttaa tgtttatcat tacttqccta
                                                                          480
ttt
                                                                          483
```

```
<210> 238
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 238
gggcccntnn agctgctcgn cggccgccag tgtgatggat atctgcagaa ttcgcccttt
                                                                         60
cgagcggccg cccgggcagg taccattatt tttcattcaa taccatatgt ctgaaaaata
                                                                        120
ggcaagtaat gataaacatt aaatgaccca ttcctatgtg ctgtctgaat attttacatg
                                                                        180
gattatctca ttacatcttc agaagaacat tatgtagtag atattgtgat tatcctcatt
                                                                        240
ttacagatgg agaaactgag acttagacaa gttaaataac ttgcccaggg ttacaatatt
                                                                        300
actgagtaga aaaaccacat ttgaacccag gaagtgtggc tgaagaattt ttgtgattta
                                                                        360
cctgttagac tataattgtc tattttttct acagtggaga taattctggt gtcaaggggc
                                                                        420
taaagaattt totoaagaco aaacaacaca ttttttggaa atacgcagta attgaccatg
                                                                        480
agacatgctg agettagtac eteggeegeg accaegetaa gggegaatte cageacaetg
                                                                        540
gcggccgtta ctagtggatc cgagctcggt accaagcttg gcgtaatcat ggtcatagct
                                                                        600
gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat
                                                                        660
aaagtgtaaa geetggggtg eetaatgagt gagetaacte acattaattg egttgegete
                                                                        720
actgnccgct ttccagtcgg gaaacctgtc gtgccagctg cattaatgaa tcggncaacg
                                                                        780
cgccggggag aggcngnttg cgtattgggc gctct
                                                                        815
      <210> 239
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(483)
      \langle 223 \rangle n = A,T,C or G
actatgacet gattacgeca agettggtae egagetegga tecaetagta aeggeegeca
                                                                         60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt acttttttt tttttttt
                                                                        120
ttttttttta gcgagcaagt atggnttatt acggacaaat ggtagaaaaa tgttactaat
                                                                        180
atccatagat aagttcctta agtcatgtag agagactgtt attaaaagtt tgctgcattt
                                                                        240
ttctattgaa tcaagaacta gctaccagtt acagtgcctt ctaaacacac agttagcttt
                                                                        300
gctttatcaa taaccaaata ataaactagg tcccaatggt tttgtccaca tntagattgt
                                                                        360
tcaggtgatc aggaactctt ttatttgtgt gctttagctt ttagttcttg gttatatctc
                                                                        420
caaatacgaa aaagctgaga ggctcctact gcccccacaa agaaattaac agcaaacaga
                                                                        480
ctt
                                                                        483
      <210> 240
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 240
gggcctntna gctgctcgac ggccgccatg tgatggatat ctgcagaatt cgccctttcg
                                                                        60
ageggeegee egggeaggta caaccateca geaggteeca gaacagtttt ettetggget
                                                                        120
ccaattatga aatgggggtt ggtgtgtgct ggattggctg atatggccag acctgcagaa
                                                                        180
```

```
aaacttagca cagctcaatc tgctgttttg atggctacag ggtttatttg gtcaagatac
                                                                           240
tcacttgtaa ttattccaaa aaattggagt ctgtttgctg ttaatttctt tgtggggca
                                                                           300
gtaggageet eteagetttt tegtatttgg agatataace aagaactaaa agetaaagea
                                                                           360
cacaaataaa agagtteetg atcacetgaa caatetagat gtggacaaaa ecattgggae
                                                                          420
ctagtttatt atttggttat tgataaagca aagctaactg tgtgtttaga aggcactgta
                                                                          480
actggtaget agttettgat teaatagaaa aatgeageaa aettttaata acagtetete
                                                                          540
tacatgactt aaggaactta tctatggata ttagtaacat ttttctacca tttgtccgta
                                                                          600
ataaaccata cttgctcgct aaaaaaaaa aannnnnaaa aaaaaaagta cctcggccgc
                                                                          660
gaccacgcta agggcgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg
                                                                          720
taccaagett ggegtaatea tgggteatag etggtteetg tgtgaaatgg tatecqntea
                                                                          780
caattncaca caacatacga accggaagcc ttaag
                                                                          815
       <210> 241
       <211> 486
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(486)
      <223> n = A, T, C or G
agctatgacc atgattacgc caagcttggt accgagctcg gatccactag taacggccgc
                                                                           60
cagtgtgctg gaattcgccc ttagcggccg cccgggcagg tacttcccac cactggaaat
                                                                          120
gttagcataa aagaacttgg agaggaaaaa agtattaaca aaactgcagt ctgcactctt
                                                                          180
taaacctgtt taaggctctt catcctggtt agcaaaaggt gtgaatgtaa tgtgatggaa
                                                                          240
tttaaaagtt ttatgagacc aggcacagtg gctcacgact gtaattccag cagtttagga
                                                                          300
agccgaagtg tgcagatcac ctgaggtccg gagaccagcc tggccaacat ggtgaaaccc
                                                                          360
tgtctctact agaaatacaa aaattagcca ggtgtggtgg cgggcgcctg taatcccaac
                                                                          420
tactcaggag gctgaggcta gagaatcact tgaacccagc angcggaggt tgcggtgagt
                                                                          480
cganat
                                                                          486
      <210> 242
      <211> 481
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(481)
      <223> n = A, T, C or G
      <400> 242
antigacetg attacgecaa getiggtace gageteggat ecetagiaae ggeegeeagt
                                                                           60
gtgctggaat tegecetteg ageggeegee egggeaggta cateagtgtt cattitatta
                                                                          120
tttcttacac tgtcttcatg acttacacat aatattttgc tagttttaaa acataagatg
                                                                          180
tgataataat ctaaacagac caaaggaaat aaatgaatat gattaaaaaa agacagagaa
                                                                          240
taageeetgt etgatggaaa geataaeaaa geaggtagaa eaaetgteag gaatgettga
                                                                          300
tccaataaag ctaggtttgt gatccacaac acttcagcat tttaatgtga tttttgatgt tngctttttg caatggtgat tctcagttgc ctccctcctg tgtctttaca agctgaaatc
                                                                          360
                                                                         420
aagtgaaget acttetgaet ttttetaaaa ettaaaeeea acatgaaggt etgegtatte
                                                                          480
                                                                          481
      <210> 243
      <211> 824
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (824)
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660

720

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<223> n = A,T,C or G
      <400> 243
cnanngggcc tntnnagcat gctcgacggc cgccatgtga tggatatctg cagaattcgc
                                                                       60
ccttagcgtg gtcgcggccg aggtacataa tactttagat aaacattttt agaataactt
                                                                       120
tattataact cgataagcaa aataatccaa acctttatac atttctacaa ggatagtcac
                                                                      180
atatgtcaat ttttcggttt cctctcgtgc ctattttgtc tcctgagccg gcccctttcc
                                                                      240
agetgacacg tgtgctccgt gttctcccac aatagtgtga cctggcctga gtccatgccg
                                                                      300
cegtgageet cetttetgtg ettacaacag cageetgeet gatgteagtt atggaetatt
                                                                      360
420
agagacccgc tgctgttgca tcatggaaaa gtgccacata cgtgcacatg tgaaagaata
                                                                      480
cgcagacctt catgttgggt ttaagtttta gaaaaagtca gaagtagctt cacttgattt
                                                                      540
cagettgtaa agacacagga gggaggcaac tgagaatcac cattgcaaaa agcaaacatc
                                                                      600
aaaaatcaca ttaaaatgct gaagtgttgt ggatcacaaa cctagcttta ttggatcaaa
                                                                      660
cattectgac agttgttcta cetgettttg ttatgettte cateagacag ggettattet
                                                                      720
ctgtcttttt taatcatatt catttatttc ctttggtctg tttagattat tatcacatct
                                                                      780
tatgttttaa aactagcaaa atattatqtq taaqtcatqa aqnt
                                                                      824
      <210> 244
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(483)
      <223> n = A,T,C or G
      <400> 244
actatgacet gattaegeea agettggtae egagetegga tecaetagta aeggeeegee
                                                                       60
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtacgcggg ggcagggtgt
                                                                      120
ttaatcgtcg ccaagcggga cttactgcaa gctatcaaat ctgaggtctt attttgttga
                                                                      180
gtcgaaagtg aaattttcct ttggccaacg tgacagggct ttgtttggtg gtaaaaaggg
                                                                      240
ttactagaca cccctcattc cactgccact ggagggcgca tttctcagct cttgctcttc
                                                                      300
aaacctgctg aaaggaattc ctagatctaa acaccagcat ttgacattgt gcagcaaana
                                                                      360
aatggttatg ganaagccca gtccgctgct tgtanggcgg gagtttgtga ggcaatatta
                                                                      420
tactttgctg aataaagctc cggaatattt acacaggttt tatggcagga attcttccta
                                                                      480
tgt
                                                                      483
      <210> 245
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(822)
      \langle 223 \rangle n = A,T,C or G
      <400> 245
ttgggcccnt nnagcatgct cgacggccgc catgtgatgg atatctgcaq aattcgccct
                                                                      60
tagcgtggtc gcggccgagg tacttcccct cgaaacataa tcggttttgc aattaagatt
                                                                      120
ctctgaactg gttcagagtc atcaaaaacc acaaaaccaa aatttggaag ctttcccca
                                                                      180
acaccettgg tattgatgeg aagtteeaca aegttteeaa aacteatgaa gaatteettt
                                                                      240
agctcatttt catcaatatc atgtggcaag ttaccaacaa aaagttgatg actatctgga
                                                                      300
tagogaatta ttotaoggtt gtoagagtoa ttotgttoca tatotoctot gootgqtott
                                                                      360
ggtcctctag gaggaaaacc aggtcgttct ctaggtcgtt gttcacgcac acgaggtggc
                                                                      420
tgagattgaa cttctggttt agcttcgact cttggctttg gtggttcttg tggcagagaa
                                                                      480
acaggitetg ceggaggagg agtagtagat tictecteta qitettetaa qitettetee
                                                                     540
```

tccacttgtg gtttcagctc ttcagtcttt gtttcagatt ctggctcagg ttcaggttca

tgagaggatt cttccaaagg ctcctctatg ccattagtca cagggtgagc ttcatagtaa

ccactgttag cattttcttg cacaggttca ggagatggtt gnctttcttc ttggtcctct

tctacttcat cttctgattc ttcatcaaag ttcataacga aacatatcat tgtgaacata			acacttnatc	780 822
<210> 246 <211> 482 <212> DNA <213> Homo Sapien				
<pre><400> 246 actatgacct gattacgcca agcttggtac gtgtgctgga attcgccctt agcgtggtcg aaccaactca atatgtgttt gatgatagtg aatcttacat ctttgccttt aaagaatggg taatgaaggt tgagaaccgt aggagaggct aacctttcat cacttccttt gtgcgcttcc gggtcccctg tgcagcatca gcttatgctg ggagctagta tccttagatc tttctatcgc cc</pre>	cggccgaggt aattgataaa ttacaaccat ctcatgctgt tgccttaagt ccacaagtca	acttttttt acccgaaget cactagatca aaataatgtt gacaagtagc gtttgcaccc	tttttttt tttccctgta cagtagtgcc gcaggctaat aacatggctt taggtgcca	60 120 180 240 300 360 420 480 482
<210> 247 <211> 816 <212> DNA <213> Homo Sapien				
<220> <221> misc_feature <222> (1)(816) <223> n = A,T,C or G				
<pre><400> 247 gggccttnga gctgctcgan cggccgccat gagcggccgc ccgggcaggt actttaattt tgcaaatctt tttttaaat tttttaaatt aaaaaaatt tcttaatata gttattatgc gtccacagaa taagacacaa gaaacctcaa actaagatta gatgaacaca acactcagaa agatgttaac aaaacaaatt aaggctgctg gactgtaaag aattttttt tttttaatgc aataacgaag agaattaagt tagcgataga tagggtgcaa actgacttgt ggcagcataa ttgctacttg tcacttaagg caggaagcgc gcaacattat ttacagcatg agagcctctc tgngatctag tgatggttgt acccattctt aagcttcggg ttttatcaat cctatcatca</pre>	tgcttgttca ttatatttt gaggggaggg gctgtgaggt atactctagg gggaacctga aagttagaca aagatctaag gctgatgctg acaaaggaag ctacgggtct taaaggcaaa	aatgatctac tttccagcca gaagcaaagg caatttgtaa agggctgaaa gtccatgtta tggagttaga gatactagct cacaggggac tgatgaaagg caaccttcat	acttacattt actcaaggcc agcacaggta ttaaaagaat aagaaggaac agcttgggtt gggtcagata cctgggcacc ccaagccatg ttattagcct taggcactac	60 120 180 240 300 360 420 480 540 600 660 720 780 816
<210> 248 <211> 482 <212> DNA <213> Homo Sapien				
<pre><400> 248 actatgacct gattacgcca agcttggtac gtgtgctgga attcgcctt tcgagcggcc ccttctctgt aattatatct cgtttttgct gtattgccat gaaaggtaaa cacattgtga agcactggtt ggggctgaac actgttgaca tgcctcttct gaaacacacc aacccatatt tgctgggagc aactaactag ttattatgca atggttttac agcttgttt ttcttttct tt</pre>	gcccgggcag tggcagtgac actgaactta catcattttt cctctgctcc catctgctcc	gtactctttg ctacccagta ccaagcagat attggaagag cccaaagctg agacccagct	ggcattaatg attgcatcgt tctgtgagaa tattaactgg tttctgatcc ctttaacttc	60 120 180 240 300 360 420 480

```
<211> 821
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(821)
      <223> n = A,T,C or G
      <400> 249
ggcctctnag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
                                                                       60
tggtcgcggc cgaggtactt tatgaatttg gggtaggtaa agtttgtatt ttatcttaaa
                                                                      120
catgttttct atgatgaaaa ggaacaaaat tgtaaaaaat gaggatcttc cctctaaagg
                                                                      180
tttcaaagcg ttagaggaca tgcaattaaa tgttgttaca ccttgaacaa tgagcctctt
                                                                      240
gagtttgtag gaagggcaga ccggctccat taccaacaac tttggggtag aaagcacagc
                                                                      300
tctcctcttt tacccagcac aaatgcaatc ctgattataa aactatttgt gtttctaaat
                                                                      360
acaaccaaag gaaatcttag agaaacataa attagaaacc tcttttatta aggggaaaca
                                                                      420
480
aaaaccatga agttaaagag ctgggtctgg agcagatgtg cataataact agttagttgc
                                                                      540
tcccagcagg atcagaaaca gctttggggg agcagaggaa tatgggttgg tgtgtttcag
                                                                      600
aagaggcacc agttaatact cttccaataa aaatgatgtg tcaacagtgt tcagccccaa
                                                                      660
720
ggcaatacac gatgcaatta ctgggtaggt cactgccaag caaaaaccga agatntaatt
                                                                      780
tcccgagaag gcattaatgc ccaaagagta cctgccccgg n
                                                                      821
      <210> 250
      <211> 481
      <212> DNA
      <213> Homo Sapien
      <400> 250
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccaq
                                                                      60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caacattgat gttttaatat
                                                                      120
agaatgaagt gcttgctaca cagtcaagta aatcaacata tccattacca cacacettt
                                                                      180
tcttttctga ggagcggtaa gagtacttta attttgcagt tattgattaa ttaaaaaaca
                                                                      240
cagttgtttt cagcatttcc tagttacagt agtgcatagg aaattccatt ctaaacaaag
                                                                      300
aagtaattaa tgaaataaca acacctta acattttaca ttgataggtt acagtttaca
                                                                      360
aggtgctttc acatacatta tttcatttga ttcttacaac aagcagaaaa aacagtggga
                                                                      420
aagatttttt ttttcaggct tacaatgagt attttcaggc caatgggcag ttaacacaag
                                                                      480
                                                                     481
g
      <210> 251
      <211> 803
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (803)
      <223> n = A, T, C \text{ or } G
      <400> 251
gggccttnna gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                      60
gagcggccgc ccggcaggta cactaaatta gaatattttt aaagtatgta acattcccag
                                                                     120
tttcagccac aatttagcca agaataagat aaaaacttga ataagaagta agtagcataa
                                                                     180
atcagtattt aacctaaaat tacatatttg aaacagaaga tattatgtta tgctcagtaa
                                                                     240
ataattaaga gatggcattg tgtaagaagg agccctagac tgaaagtcaa gacatctgaa tttcaggctg gaaaactatc agtatgatct cagcctcagt tctcttgtct gtaaaatgga
                                                                     300
                                                                     360
agaactggat taggcagttt gtaagattcc tcctaacttt cacagtcgat gacaagattg
                                                                     420
tctttttatc tqatattttq aagggtatat tqctttgaag taagtctcaa taaqqcaata
                                                                     480
tattttaggg catctttctt cttatctctg acagtgttct taaaattatt tgaatatcat
                                                                     540
```

aagageettg gtgtetgtee taatteettt eteaeteaee gatgetgaat acceagttga

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atcaaactgt caacctacca aaaacgatat tgtggcttat gggtattgct gtctcattct
                                                                         660
tggtatattc ttgtgttaac tgcccatggc ctgaaaatac tcattgtaag cctgaaaaaa
                                                                         720
aaaatctttc ccactggttt ttctgcttgg tgtaagaatc aaatgaaata tggatgtgaa
                                                                         780
agcccttgta actgtaccta tcn
                                                                         803
      <210> 252
      <211> 500
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(500)
      <223> n = A, T, C \text{ or } G
      <400> 252
tacnccaann tttgacctga ttacgccaag cttggtaccg agctcggatc cactagtaac
                                                                          60
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac agatgaaaag
                                                                         120
aagtggtgtt aatgacctac ctgcaccgat aataaagcaa atagaatgat tatatacatt
                                                                         180
aagatcagct tgattaaaaa taaattttat atgcaggtaa attgatcatt aaaatgaacc
                                                                         240
cagtttaact cttctcgtgt gttgttttaa ggtaggccac tgaaacgcag agataaaatc
                                                                         300
anatggggaa aattaaaagc naagaaaaaa attacaaaac aagtgggtta agccatggat
                                                                        360
tottaaccaa accotggact aaatgtgcca aagtgctttg aaaatttcca ctgccagcna
                                                                         420
tggntggtaa agtcantttg gcaaaaaaaa ggtggttnga aaaaaaactn accttttaaa
                                                                         480
                                                                        500
ttcccacctt ggatctggcn
      <210> 253
      <211> 831
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (831)
      <223> n = A, T, C \text{ or } G
      <400> 253
gnnnnnnnn gnnnnnnnn ntttnnantg ggcctctnna gcatgctcga cggccgccat
                                                                         60
gtgatggata tetgeagaat tegecettte gageggeege eegggeaggt actatatttg
                                                                         120
                                                                        180
tgagectagg gtaggggcac tgetgcaact tetgetttea teccatgeet cateaatgag
                                                                        240
gaaagggaac aaagtgtata aaactgccac aattgtattt taattttgag gtatgatatt
                                                                        300
ttcagatatt tcataatttc taacctctgt tctctcagta aacagaatgt ctgatcgatc
atgcagatac aatgttqqta tttgagaggt tagttttttt tcctacactt ttttttgcca
                                                                        360
                                                                        420
actgacttaa caacattgct gtcaggtgga aatttcaagc acttttgcac atttagttca
gtgtttgttg agaatccatg gcttaaccca cttgttttgc tattttttc tttgctttta
                                                                        480
attittececa tetgattita tetetgegtt teagtggeet acettaaaac aacacaegag
                                                                        540
                                                                        600
aagagttaaa ctgggttcat tttaatgatc aatttacctg catataaaat ttattttaa
                                                                        660
tcaagctgat cttaatgtat ataatcattc tatttgcttt attatcggtg caggtaggtc
                                                                        720
attaacacca cttcttttca tctgtacctc ggccgcgacc acgctaaggg cgaattccag
cacactggcg gcccgttact agtggatccg agctcggtac caagcttggc gtaatcatgg
                                                                        780
gtcatagctg tttcctgtgt gaaattggta tccgntcaca attcccacan g
                                                                        831
      <210> 254
      <211> 514
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(514)
      \langle 223 \rangle n = A,T,C or G
```

```
<400> 254
 cacttgacnt gatcgccaac ttggtaccga cntcgnntcc attattaccg gacacttgac
                                                                         60
 tgatacgcca nettggtace gacteggace actagtaacg gnegecagtg tgetggaatt
                                                                        120
 cgcccttgag cggccgcccg ggcaggtacc tctaatgcag gctaataaat ttaagctaat
                                                                        180
tatttatgct acctgtgctg tggtggtttc ctatcagcag ccaaatataa cctcacagtt
                                                                        240
gttttgctgt ttttgctttc acaaaagagc tattaaccaa cttaaaaatg ttttttgatt
                                                                        300
gaaggatgct taggggatga gaggatatca acaatataag cccatgccaa atccccattt
                                                                        360
cttatcatta aaactgacct gacattaaag caatgcttaa ttttttacca taagagtgaa
                                                                        420
attttgagat tataatttta aagtgtaaaa tatttacact taaattacac ttataatttt
                                                                        480
aaagtgtata atatttacac agattaaaat aaaa
                                                                        514
       <210> 255
       <211> 830
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (830)
      <223> n = A, T, C or G
      <400> 255
nnnnnngncn nnnnnnannn nnnnnnnant gggcctctnn agcntgctcg acggccgcca
                                                                         60
tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta ctttttttt
                                                                        120
ttttccagat gaagtettge tetgttgeec aggetggage geagtggeac aateteaget
                                                                        180
cactgaaacc ttcgcccct gggctcaagc tagccagtct tttagtaaac atttagtcaa
                                                                        240
caaatctgca attataacgg aggtttgatt tttgttgttt ttgtttgttt ttaagtcact
                                                                        300
ctgtgtttgt aatatcaatt tacttttcaa gtttagaatg ttttgcttca ttgtttccca
                                                                        360
tattttattt taatctgtgt aaatattata cactttaaaa ttataagtgt aatttaagtg
                                                                        420
taaatatttt acactttaaa attataatct caaaatttca ctcttatggt aaaaaattaa
                                                                        480
gcattgcttt aatgtcaggt cagttttaat gataagaaat ggggatttgg catgggctta
                                                                        540
tattgttgat atcctctcat cccctaagca tccttcaatc aaaaaacatt tttaagttgg
                                                                        600
ttaatagctc ttttgtgaaa gcaaaaacag caaaacaact gtgaggttat atttggctgc
                                                                        660
tgataggaaa ccaccacagc acaggtagca taaataatta gcttaaattt attagcctgc
                                                                        720
attagaggta cctgcccggg cnggccgtca agggcgaatt ccagcacact ggcggccgtt
                                                                        780
ctagtggatc cgactcggtc cagcttgcgt aatcatggtc atagctgttg
                                                                        830
      <210> 256
      <211> 524
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (524)
      <223> n = A, T, C or G
      <400> 256
cnnnnnnna ncntnanacn nnnnnntngn nnnnnagnnn nnnnnnnnn nnnnnnnnan
                                                                        60
actatgactg attacgccan cttggtaccg actcggatcc actagtaacg gccgccagtg
                                                                       120
tgctggaatt cgcccttagc gtggtcgcgg ccgaggtaca ttacttggtg ttaacattgt
                                                                       180
tggcagtggt agcccctttt cagaaagcaa cttgctgtaa gtcagggtgt ccgttccaac
                                                                       240
cttcagccag tgaaaaggta gtaacaaatg gtaaacaaga gaatgattgt ttaaacctat
                                                                       300
ctgtggacac ttaatgcaac tgtttaaaaa tgataatcac gagttatgta gcaacgtgga
                                                                       360
aatatattta cagaacatta agtggagaaa gcaggacacg aaagtatatt tatactacag
                                                                       420
ttataactca acagttcatt tatatgctgn tcatttaaca gttcatttaa acagttcatt
                                                                       480
ataactgttt aaaaatatat atgcttatag tcaaaagctg ttgg
                                                                       524
      <210> 257
      <211> 814
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1) ... (814)
      \langle 223 \rangle n = A,T,C or G
      <400> 257
ntgggcctct agaagcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc
                                                                          60
ccttgagcgg ccgcccgggc aggtactttt ttttttttt tttttttt tttttttt
                                                                          120
attittaact ttattittat tgntgacact attacagata gaatgaccac aaccatatta
                                                                          180
acaaaccaaa aacctgtgca cagaaacaag atgaagaaaa tatatcaaga tgttaaccac
                                                                          240
actetttgga tggtgaaaac atgggtgagt ttetetteta catttetgta actteaaagt
                                                                         300
ttctataatg aacacatttc atatataatg gaaatatatg tagtaaaggt ggactaccaa
                                                                         360
aacactagaa tgatgacctt tcaaggaaac cgaaacaaaa taaccataat cccacaacaa
                                                                          420
ccacacaact attictiget titcatctit citcccatct tigacatita igcatactta
                                                                          480
tcactaacac cctaataatc acagactagt gcacagatca agatgttaac agttaattgt
                                                                         540
tgttgggtgt tgggaatatg tgtgaatttt ctttactgaa tttccaaagt tttgtatgag
                                                                          600
tatgtattat atttgtaatg gaaaatacat acataaaatt tattaccaaa acaccaaaga
                                                                          660
ttatttaagg aatttgagac aaaatattta accaaattcc cacaatgaca acactatttt
                                                                         720
agttattttc cacatctttt catttaaaga ctttatgcac acatatttaa cactgntatc
                                                                         780
acaagcgtgt gcactgnaac aggattgagg aaan
                                                                          814
      <210> 258
      <211> 474
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(474)
      <223> n = A, T, C or G
      <400> 258
acagetatga cetgattacg ceaagettgg tacegagete ggatecacta gtaacggeeg
                                                                          60
ccagtqtqct qqaattcqcc cttaqcgtgg tcgcggncga ngtacattat ttggaggact
                                                                          120
                                                                          180
taaaatctgn atgtggacat ggtcccaact tantgtccgt taactagtta tccaaattgt
aanagctaca gaaagcccag ttgaggggta antgtgcctg gntcacacag cctgcaccct gtcacctcgg caatgagcca gtgtggggca ctggggactt ctaacccttg gattgctctt
                                                                          240
                                                                         300
tttgacctgt gcataccttc taattgnaaa atatatttca gaccgagagt acntgcccgg
                                                                         360
gcggccnctc aaaagggcga attctgcaaa tatccatcac atggcggccg ntngagcatg
                                                                         420
catctaggag ggcncaattc ccctatagng agtngtatta caattcactg gcnc
                                                                         474
      <210> 259
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (809)
      <223> n = A,T,C or G
      <400> 259
                                                                          60
ntgggcccnt agangcatgc tcgncggccg ccatgtgatg gatatctgca gaattcgccc
tttcgagcgg ccgcccgggc aggtactcac ggtctgaaat atattttaca attagaaggt
                                                                         120
                                                                         180
atgeacaggt caaaaagage aatecaaggg ttagaagtee ceagtgeece acaetggete
attgccgagg tgacagggtg caggctgtgt gagccaggca cacttacccc tcaactgggc
                                                                         240
ttctgtagct ttacaatttg gataactagt tagcggacag tagttgggac atgtcacata
                                                                         300
cagatttgag tectecaata atgtaceteg geegegacea egetaaggge gaatteeage
                                                                         360
acactggcgg ccgttactag tggatccgag ctcggtacca agcttggcgt aatcatggtc
                                                                         420
atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca tacgagccgg
                                                                         480
aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat taattgcgtt
                                                                         540
```

```
gegeteactg ecegetttee agtegggaaa cetgtegtge eagetgeatt aatgaategg
                                                                         600
 ccaacgegeg gggagaggeg gtttgegtat tgggegetet teegetteet egeteaetga
                                                                         660
ctcgctgcgc tcggtcgttc ggctgcggcg agcggtatca gctactcaaa ggcggtaata
                                                                         720
ccgttatnca cagaatcang ggatacgcag gaaagaacat gtgagcaaaa ngccacaaaa
                                                                         780
ggccaggaac cgtaaaaagg ccgcgtttg
                                                                         809
      <210> 260
      <211> 713
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(713)
      <223> n = A, T, C \text{ or } G
      <400> 260
ctctttaaac gccagctcga ntccganntc tatccntgac aannnnngtn ccggnctgga
                                                                         60
attognoctt togagoggoo gooogggoag gtacttgagt toatgggoat ctotocogoo
                                                                         120
gcctctcagc ctatctgcac catgtctcac acgttcagtt gcagctctta ccgttttgaa
                                                                         180
ggcgcacgtg ggcaagaagt cctgggcagc acaagaaagt caatcacgtt gagacagaga
                                                                         240
gagcaggaga ggaagtgggc cccagtagaa gtgggcgaga gagcgttggg tgggaacgtg
                                                                         300
360
gaaagagana ganagaggga aaganaaaga gacagagaaa agaaactatt gttggttaaa
                                                                        420
atgccagcgg aaagtccatg ggggtgaatg agtccggcaa tggncangga gttagcagct
                                                                        480
tggcgtagtg tettteactg ntttggctgt ettgagaata geattenaen eegactgtgg
                                                                        540
ttccccanca gactttagnc ngttgcccng ncttgaattg ccggaccaag gttaacatag
                                                                        600
getttteggn tetnaatatt titggggetn gaatantegg aacentttgg getgggeeat
                                                                        660
ttaccegntn cnncntgggt nnnacatttt tnctggntaa tcccgccttt tng
                                                                        713
      <210> 261
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(722)
      \langle 223 \rangle n = A, T, C or G
      <400> 261
acgcanttag gtaccgagct cggatcccta gtaacggccg ccagtgtgct ggaattcgcc
                                                                         60
cttagcgtgg tcgcggcccg aggtactcct cagccatgcc gaaggtcctc ttccgggact
                                                                        120
cttcgatggc agacagcagg gcattgtcct tctcattctt caggaagccc tgcagctctt
                                                                        180
aaatttaagg agttacagaa cggtcgatgc tgncgatcac tgcagctctt ccaaaccttc
                                                                        240
ttatatgaga tgagctctgt cggaaccagt gctcaagttt ttcccacccc aaactgcctg
                                                                        300
aattgaggga tgggggtggg gagaaggaca gagagaagag aaaaaggaga aaagaagana aaggaaaaga acaaccctc tgcaagtgct gatgtgactg aagcactaaa gagtcaaatt
                                                                        360
                                                                        420
aaacaatgaa gattgcaggg tccctttaaa aagggtgcac tgcaqncccc nqaqcacanc
                                                                        480
natcccattc gnttgngccg ctncacanat tctagagaan tcnnccatca tgtttgaaan
                                                                        540
gcncaaaant gatgggannt cccgnntacg cggggactta attctgcctt gggaaatcaa
                                                                        600
ggaanacttt gnttggangc ggcanttnaa anntggcctt aagaangnng tgngaatttg
                                                                        660
ttggccaaac nantngaaag gtnttccggc cgatnggtcc ctgattttta aggattnnaa
                                                                        720
ng
                                                                        722
      <210> 262
      <211> 705
      <212> DNA
      <213> Homo Sapien
      <220>
     <221> misc_feature
```

660

```
<222> (1)...(705)
       <223> n = A, T, C \text{ or } G
       <400> 262
acgetttaaa enceagettg gtaccgaget eggateeeta gtaacggeeg eeagtqtget
                                                                           60
ggaattcgcc cttgccgccc gggcaggtac ctgatatttt gaacttttaa ttgctatcaa
                                                                          120
atttcagctc tggttttatg cattgttgta atttctcagt gaatcccagt gcttctttcc
                                                                          180
ttcttgaaaa atgccatttc gcccaggcgc ggtggctcat gcttgtaatc ccagcacttt
                                                                          240
ggtaggccga ggtgggtgga tcagctgagg tctgtagttc aagaccagcc tggctaacat
                                                                          300
gatgaaaccc tgtctctacc aaaaatacaa aaaaaaacta gccaggcatg gtgttgtatg
                                                                          360
cctgtaatcc cagctactca ggaggctgag acaggagaat cgcttgaacc tgggaggtgg
                                                                          420
aggttgcagt gagccaagat cgcgccactg cactncaacc tgggcaacag agtgagactc
                                                                          480
cateteaaaa naannaaaaa ggaaaatgee atttettggg cecantgeea atatgeacea
                                                                          540
agaatgttng taggaactac tttggtctgg ctgcagaagt tcttaatcta gcattaaaaa
                                                                          600
tccaacggtt gatttgatct cttaaaatgg ttttcnnant ttgganctga aattgagnat
                                                                          660
aaattacctt tgcnnntnaa ttcaaaangt tnaacctnnt tnann
                                                                          705
      <210> 263
      <211> 656
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (656)
      <223> n = A, T, C or G
      <400> 263
acnogotigt accgagotog gatocotagt aacggoogoo agtgtgotgg aattogooot
                                                                           60
tagcgtggtc gcggcccgag gtaccgcggg ggagaacgcc agggagctgt gagagtgtgc agtcgcgttc ctgctgtccg gacacttttt tcctctactg agactcatct ggtagatccg
                                                                          120
                                                                          180
caggicagtic ctcccaggig ctgaagttgt gaaatatggg ttttctaaga agattaatct
                                                                          240
atcggcgtag accaatgatc tatgtagaat cttctgagga gtccagtgat gagcaacctg
                                                                          300
acgaagtgga atcaccaact caaagtcagg attctacacc tqctqaaqaq agaqaqqatq
                                                                          360
agggagcatc tgcagctcaa gggcaggagc ctgaagctga tagccaggaa ctggttcagc
                                                                          420
caaagactgg gtgtgagctt ggagatggtc ctgataccaa gagggtntgc ctgcgaaatg
                                                                          480
aagagcagat gaaactgccc gnagaaggcc agacctgann cgatagcagg acagttcccc
                                                                          540
gaaactggtg tagcgcgaat gtctgtgtca gagtggcctg ccaatcaagg agtgaaccct
                                                                          600
gggaataagc atccagctta aagannccct ganggttagt gtctngtgaa ttncct
                                                                          656
      <210> 264
      <211> 752
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (752)
      <223> n = A,T,C or G
      <400> 264
ggnttgaang tatacgactc nctanggcga attgggccct ctagatgcat gctcgaqcgq
                                                                           60
eccgccagtg tgatggatat etgcagaatt egecettage gtggtegegg eegaggtace
                                                                          120
tttgataatt cctagacctc tattttcatt ctgtgtatta atgtgaataa cagatggata
                                                                         180
ttttaatatt taaggcagat ggtaaacttt cctataggtc ttgtgagact tcgtcttata
                                                                         240
ggctgaacac cattcacaaa atgtaataat gcttcattcc ttcaggttga ggtaaaqaac
                                                                         300
ttgagcaact ggattagcaa agctgcaaag aatgaaatgt ggcctaagat gtaattatgt
                                                                         360
tetetgeeet teetttggge eagggtagtt ttgeaettga cacaatggaa aataggeeat
                                                                         420
aaagcctgaa aataaaatgt tctaaacccc aatctcacag cactttagta ggcttttcac
                                                                         480
taggcatett taaagtatit teaacaaaat actaattaag etaceaette aaaagagett
                                                                         540
caaggaaaag ctctgctttc ttataaaatc tttttgagac agagtttccg ctcttgtcag
                                                                         600
```

cacaggetgg agtgeaatgg cegtgatete gaetnaaceg naacettegg eetgetgggt

tcaagtgatt ctctagncct caagcttctg agtaggttqq qattacaqqc qcccqqncaa 720 ccacacctgg gctaaatttt ggatttctan gn 752 <210> 265 <211> 747 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1) . . . (747) $\langle 223 \rangle$ n = A,T,C or G <400> 265 gngntttene nnngegetet anageatget egageggeeg eeagtgtgat ggatatetge agaattcgcc cttagcgtgg tcgcggccga ggtacctttg atnattccta gacctctatt 120 ttcattctgt gtattaatgt gaataacaga tggatattgt aatatttaag gcagatggta 180 aacttteeta taggtettgt gagaetnent ettatagget gaacaccatt nacnanntgt 240 antaatgett natteettea ggengaggtn nanaacttga geacetggat tageageage 300 tqcqaaqaat qaaatgcngc ctaacatgta attatgnatc tctgnccttc ctttgggcca 360 gggtagtnat gcnctagaca cantggatga tangccatna agcctgannn tgnaatgatc 420 taaacccnaa tctnncagca ctttattagg ctantcacta ggcatcttta agagtnggtt 480 ccenttaata ctagneaace nnecacteea aaananette aagganaage tntgntntnt 540 tanaaaatet tttegnnaca cantttnacn ettggegene angetggant geaatggeeg 600 tgatetetae teaecegaan cetengaetg etgaqtteaa qtqattqtet qneettanet 660 ctccgggacc angnttnggg attancaagc ctcgcgggca annacaggtg nctaattgnt 720 tgcattngcn taaaatnagg acaccng 747 <210> 266 <211> 738 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(738) <223> n = A,T,C or G<400> 266 cgnnnntgaa ggntacgact cactataggg cgaattgggc cctctagatg catgctcgag 60 cggccgccag tgtgatggat atctgcagaa ttcgcccttt cgagcggccg cccgggcagg 120 tacagctgaa gtttgataac aaagaaatat atataagaca aaaatagaca agagttaaca 180 ataaaaacac aactatctgt tgacataaca tatggaaact ttttgtcaga aagctacatc 240 ttettaatet gattgteeaa ateattaaaa tatggatgat teagtgeeat tttgeeagaa 300 attegtttgg ctggatcata gattaacatt ttcgagagca aatccaagcc attttcatcc 360 aagtitttga catgggatgc taggcttctg gtttccattt gggaaatgta ttcttatagt 420 cctgtaaaga ttccacttct ggccacactt cattattggg agtgcccaaa gctctgaaat 480 cctgaagagt tgatcaattc tqaatcccat ggaaaaqtgg ttcttagtgc tagtcaacaa 540 atatnggngc ctatactcca aaggtcactt ggagttgagt natggagctg accccagcat 600 acttttggaa aactggacca agtggttgca ccaccnttaa aaaatttaaa accggnngta 660 ttttaaataa ggtggaagaa accttttcct tttttattta aggaattcac ttagcnctta 720 ctaaattcat ggtggggg 738 <210> 267 <211> 731 <212> DNA <213> Homo Sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

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<400> 267
gngnntttgn aagggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                       60
gcagaattcg ccctttcgag cggccgcccg ggcaggtaca gctgaagttt gataacaaag
                                                                      120
aaatatatat aagacaaaaa tagacaagag ttaacaataa aaacacaact atctgttqac
                                                                      180
ataacatatg gaaacttttt gtcagaaagc tacatcttct taatctgatt gtccaaatca
                                                                      240
ttaaaatatg gatgattcag tgccattttg ccagaaattc gtttggctgg atcatagatt
                                                                      300
aacattttcg agagcaaatc caagccattt tcatccaagt ttttgacatg ggatgctagg
                                                                      360
cttcctggtt tccatttggg aaatgtattc ttatagtcct gtaaagattc cacttctggc
                                                                      420
cacacttcat tattgggagt gcccaaagct ctgaaaatcc tgaagagttg atcaatttct
                                                                      480
gaatccccat ggaaaagtgg tttcttagtt gctagttcag caaatatggt gcctatactc
                                                                      540
caaatgtcaa ctggagttga gtaatgagct gaccccagca atacttctgg agatctgtca
                                                                      600
agtggttgca acaccattaa aaaatataaa agcagtagtt atattaaaat aatgttqaaq
                                                                      660
aaaacatatn cctatatatt tnaaggaatt tcactaagca ctactaaatt tcatgttgtt
                                                                      720
gggangngtt a
                                                                      731
      <210> 268
      <211> 745
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(745)
      <223> n = A,T,C or G
gnnnnnntaa agnanacntc actatanngc gaattgggcc ctctagatgc atgctcgagc
                                                                       60
ggccgccagt gtgatggata tctgcagaat tcgccctttg agcggccgcc cgggcaggta
                                                                      120
cttcccacac aggtttgttg taaaaattaa gtgagctaat gtgtataaaa tacttcagtg
                                                                      180
ctgaataaat gttggctttt attatatatt gttaaaaaac aacacaggct gggtatgata
                                                                      240
gctcacgcct ataatcctag catttaggga ggccaaggca ggaggattgc ttgagtccag
                                                                      300
gggtttgaga ccagcctggg caacatagtg agaccctatc tctacaaaat aaaataaatt
                                                                      360
agttgggcat ggtggcacat gcctgtagtc ccagctactc aggaggctga ggtqqqaqqa
                                                                      420
ttgcttgagc ccaggaggta gaggttgcag tgagctgtga tcacaccact gcactccagc
                                                                      480
540
aaaaatccag taaagacaga gattcctaaa attctacaat tctaaaaacc agtagggctc
                                                                      600
actgaatata agagaggcaa gcaaaaaatt actccaatat tttgagtttq qqtaacctqq
                                                                      660
aatatgggtc atttattgag taaatagtta ctgagtccta actatgtgcc acacactggg
                                                                      720
ttaacacttg gcactgtctc ttatg
                                                                      745
      <210> 269
      <211> 730
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (730)
      <223> n = A, T, C or G
      <400> 269
gntnnnnttt tnaanceggt cetnntgeat getegagegg eeegeeagtg tgatggatat
                                                                      60
ctgcagaatt cgccctttga gcggccgccc gggcaggtac ttcccacaca ggtttgttgt
                                                                     120
aaaaattaag tgagctaatg tgtataaaat acttcagtgc tgaataaatg ttggctttta
                                                                     180
ttatatattg ttaaaaaaca acacaggctg ggtatgatag ctcacgccta taatcctagc atttagggag gccaaggcag gaggattgct tgagtccagg ggtttgagac cagcctgggc
                                                                     240
                                                                     300
aacatagtga gaccctatct ctacaaaata aaataaatta gttgggcatg gtggcacatg
                                                                     360
cctgtagtcc cagctactca ggaggctgag gtgggaggat tgcttgagcc caggaggtag
                                                                     420
aggttgcagt gagctgtgat cacaccactg cactccagcg tcggtgacgg agtgagaacc
                                                                     480
                                                                     540
attcctaaaa ttctacaatt ctaaaaacca qtaqqqctca ctqaatataa qaqaqqcaaq
                                                                     600
```

```
caaaaaatta ctccaatatt ttgagtttgg gtaacctgga atatggtcat tattgagtna
                                                                            660
 atagttactg agtcctacta tgtgcccaca ctgggtnaac acttgcactg tctcttatga
                                                                            720
 aatcttccan
                                                                            730
       <210> 270
       <211> 713
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222>. (1)...(713)
       \langle 223 \rangle n = A,T,C or G
       <400> 270
aattgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt
                                                                            60
cgccctttcg agcggccgcc cgggcaggta caaaccaata gctcctattc tggaaggttt
                                                                           120
tctttttatt taaaaaaaat tcaaacaagg ttaaaagtca agcaagaagg gaagagagaa
                                                                           180
actgggttct gagaaaaaaa tgtgccagta taaaataaac tcctaaatgc gtgcttgtca
                                                                           240
tectetagtt tttttttaa gttgaattte ttttecactg taaettaaga tttgagattg
                                                                           300
aggtttgcgg tccagaacat accctcagca gatacagtga ctaactggaa agtgcagttg
                                                                           360
ttcaaggtct gtcatgctca atcacctaaa gctataattt gnttgatata ttaagcatgt
                                                                           420
agacctagtg cagcatggga gccactcagg aagtttatgc aattaataaa ctttcagcat
                                                                           480
aatttactat gaagtatgca gaatttcacc ctcttctcca cacttaacat ttagttgtat
                                                                           540
atgtgaactc tcctttctta attggggaat gtagcattat atagaatgtt gntaaaggta attttaatcc tttttgacat taaccttttt tttttttggn aaaccaagtg atctgccttt
                                                                           600
                                                                           660
cagcaactgg cttattttgg gtctttgaaa ctgngatttt tatttcattn gnc
                                                                           713
      <210> 271
      <211> 702
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(702)
      \langle 223 \rangle n = A,T,C or G
      <400> 271
gnctcgagcg gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc
                                                                           60
cgggcaggta caaaccaata gctcctattc tggaaggttt tctttttatt taaaaaaat
                                                                           120
tcaaacaagg ttaaaagtca agcaagaagg gaagagagaa actgggttct gagaaaaaaa
                                                                          180
tgtgccagta taaaataaac tcctaaatgc gtgcttgtca tcctctagtt tttttttaa
                                                                          240
gttgaatttc ttttccactg taacttaaga tttgagattg aggtttgcgg tccagaacat
                                                                          300
acceteagea gatacagtga etaactggaa agtgcagttg ttcaaggtet gtcatgetca
                                                                          360
atcaccctaa agctataatt tgtttgatat attaagcatg tagacctagt gcagcatggg
                                                                          420
agccactcag gaagtttatg caattaataa actttcagca taatttacta tgaagtatgc
                                                                          480
agaatttcac cctcttctcc acacttaaca tttagttgta tatgtgaact ctcctttctt
                                                                          540
aattggggaa tgtncattat atagaatgtt ggtaaaggta attttaatcc tttttgacat
                                                                          600
taaccttttt ttttttttgg taaaccaagt gatctgnctt ttaacaactg gcttatttgg
                                                                          660
gtcctttgna actgggaatt ttatttcatt tgnncctcgg cc
                                                                          702
      <210> 272
      <211> 736
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (736)
      <223> n = A,T,C or G
```

```
<400> 272
 gnnntttgan nnnnnnnnn ntatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                             60
 gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                            120
 ctttttttta ttcctcagtt aaaacatgcc tgttattctt tttgtaatac ttaagcaatt
                                                                            180
 ttattttaaa gatatactac ttagttcatc cgtctccact tgttttttt ttttgnnant
                                                                            240
 anngggttgg ttccnttaan nccacnggtt ttaaanccat nntngtcnnn ggnaaattan
                                                                            300
 nnttantnat taaanntnnn tnncntngca aanntccagn taaaatttta gtggggggg
                                                                            360
 ggggttantt acnggnaann aattaantnc nggnnaatan tttaannntt ggnaangnac
                                                                            420
nntngnnnta annattattt nnttnanntt tttaataann annaatttta ntttgnaacn
                                                                            480
ntggtnttta ntaannggaa annocaatta attggttggt tgnatttttc ccagnaaccn
                                                                            540
ntccntgggc nggaacnncc ntangggnaa nttcnagnnn ntngngggcn gtncnnaggg
                                                                            600
nnnccaacht nggcccanch tggnggaann nnnggcnnna nnggttccch ggggnaaatg
                                                                            660
 gtattengtt enaateenne aantteeaae eeggagnett aangggtaan neenggggg
                                                                            720
 cntanngagn gcctaa
                                                                            736
       <210> 273
       <211> 715
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(715)
       \langle 223 \rangle n = A,T,C or G
       <400> 273
gngntttnac ganngnnnnn nnnnnctgct cgagcggccg ccagtgtgat ggatatctgc
                                                                             60
agaattegee etttegageg geegeeeggg caggtaettt titttattee teagttaaaa
                                                                            120
catgootgtt attottttg taatacttaa gcaattttat tttaaagata tactacttag ttcatcogtc tccacttgtt ttttttttt gnnantanng ggttggttcc nttaannona cnggtnttaa anccannnn gtcnnnggna aattannntt antonntaaa nntnnnnnc
                                                                            180
                                                                            240
                                                                            300
ntggnaannn tccagntaaa atttnagtgg ggggggggg ttaattancg gnaannantt
                                                                           360
aantnccgga naatanttta annnttggna angnachttn gnnntaagna ttatttnntt
                                                                           420
cannttttta atnantanna attttaattt gnaancntgg nntttannaa nnggaaannc
                                                                           480
caattaattg gttggttgna tttttcccag naaccnnncc ntgggcngga acancentaa
                                                                           540
ggncaaatch accaantgnc ggccgtacha aggggatcca acntnggccc ancctggnng
                                                                           600
naataatggc cnaantggtt nccngggnna aatggnattc cgttcaaatt ccnccanntc
                                                                           660
cnacceggag cettaagngg taaacetggg ggectaangg ggggectaac teaat
                                                                           715
      <210> 274
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(746)
      <223> n = A, T, C \text{ or } G
      <400> 274
gnnnntnnan gnntacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                            60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                           120
ccaggtgggc tgacgcacat cccctaaaca ttctggatct cttactcatc gtgaaaggca
                                                                           180
gacgetetaa gtetaaagte tagggtagga gtttecatte tttggaaaac caaagatggt
                                                                           240
tactcttctt aatgaaactg agaagaaggt atctacagaa aacactgaat ttaaacaaat
                                                                           300
tatgaccttg tttgttgaag ccatcaagga cccaagatat atcaaagaac aacatctctg
                                                                           360
tattggccta caggttcaga gtgttttgag gtctgtttaa gcactaatag gattttaggc
                                                                           420
cagcatccag tcagaagaga tagttcacag actcagagtt ggaaacagat taaaaaaaaa
                                                                           480
aagatgtcaa catagaaaat gatgatagag tttagttaaa aaaattcaca cataaaatta
                                                                           540
cagttaaaaa aattcacaca taaaatagag tgtttgcata gcaagacatt attgcccttc
                                                                           600
agcctggcag aaaaacataa actcaggtgt atattttata ataaacattg nattgaatgc
                                                                           660
taagaatgat acactggtga acatctnctg aatggttgcc ttcttgtaaa tcataccaat
                                                                           720
```

```
tggttagaca attgaaattn ccagct
                                                                         746
      <210> 275
       <211> 725
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (725)
      <223> n = A, T, C or G
      <400> 275
gnnnttaann ccttccctnt anatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                         60
cagaattcgc ccttagcgtg gtcgcggccg aggtaccagg tgggctgacg cacatcccct
                                                                        120
aaacattctg gatctcttac tcatcgtgaa aggcagacgc tctaagtcta aagtctaggg
                                                                        180
taggagtttc cattetttgg aaaaccaaag atggttactc ttettaatga aactgagaag
                                                                        240
aaggtatcta cagaaaacac tgaatttaaa caaattatga ccttgtttgt tgaagccatc
                                                                        300
aaggacccaa gatatatcaa agaacaacat ctctgtattg gcctacaggt tcagagtgtt
                                                                        360
ttgaggtctg tttaagcact aataggattt taggccagca tccagtcaga agagatagtt
                                                                        420
cacagactca gagttggaaa cagattaaaa aaaaaaagat gtcaacatag aaaatgatga
                                                                        480
tagagtttag ttaaaaaaat tcacacataa aattacagtt aaaaaaattc acacataaaa
                                                                        540
tagagtgttt gcatagcaag acattattgc ccttcagcct ggcagaaaaa cataaactca
                                                                        600
ggtgtatatt ttataataaa cattgnattg aatgctaaga atgatcactg ttgaacatct
                                                                        660
cctgaatggt ttgccttctt gtaaatcata ccaatggtta gacaattgaa attccaqctc
                                                                        720
tttct
                                                                        725
      <210> 276
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A, T, C \text{ or } G
      <400> 276
nnnnntgann gtatacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                         60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                        120
cttctgctgt ggtaactcaa gtaaccctcc gtttaaacca ggacagacct atgctgacaa
                                                                        180
ccatttttat cactcttagt ggtattttct ttctttgaac atgaatgcat atttctgctc
                                                                        240
tttaatggcc tttggtattt aagattacat tcagctagtc tccttattgc atgttgtttt
                                                                        300
attecagtee caccageact cagaacaaca geaagtgtgt gtaacagegg geacaggege
                                                                        360
tccagacgga aggacctcac tgacgcagtt agctcaggta gagcttattt ctqtqttcaa
                                                                        420
ttttcttgtc atgagaagca gtgaccccta agaatttgta tccctttgtt cacttctttq
                                                                        480
ttttaggaga gaaacttcta aagcattact ctaaaaggtg atagagacag agacgggcca
                                                                        540
ttttcatcta ccccttgcag agttaagttt tattacagta agttgtgagg tgagacatga
                                                                        600
tggctgcagg cacatagtca agatctaccc ttctaaggaa ataaaacggg gaaaagtggt
                                                                        660
tgaatgtcca atatagaaaa tttaatcacc actttcccaa aaaagaataa atggaggact
                                                                        720
ncattggaat tatggaaatg aaan
                                                                        744
      <210> 277
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(724)
      <223> n = A,T,C or G
```

```
<400> 277
 gnnnnttncg antgggccct ctagatgcat gctcgagcgg ccgccagtgt gatggatatc
                                                                         60
 tgcagaattc gcccttagcg tggtcgcggc cgaggtactt ctgctgtggt aactcaagta
                                                                        120
 acceteegtt taaaccagga cagacetatg etgacaacca tttttateac tettagtggt
                                                                        180
 attttctttc tttgaacatg aatgcatatt tctgctcttt aatggccttt ggtatttaag
                                                                        240
 attacattca gctagtctcc ttattgcatg ttgttttatt ccagtcccac cagcactcag
                                                                        300
aacaacagca agtgtgtgta acagcgggca caggcgctcc agacggaagg acctcactga
                                                                        360
cgcagttagc tcaggtagag cttatttctg tgttcaattt tcttgtcatg agaagcagtg
                                                                        420
accectaaga attigtatee ettigticae tiettigtit taggagagaa actictaaag
                                                                        480
 cattactcta aaaggtgata gagacagaga cgggccattt tcatctaccc cttgcagagt
                                                                        540
taagttttat tacagtaagt tgtgaggtga gacatgatgg ctgcaggcac atagtcaaga
                                                                        600
tctacccttc taaggaaata aaacggggaa aagtggttga atgtccaata tagaaaattt
                                                                        660
aatcaccact ttccaaaaaa gaataaatgg aggactncat tgtaattatg gaaatgaaat
                                                                        720
ttqq
                                                                        724
       <210> 278
       <211> 748
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(748)
      <223> n = A,T,C or G
      <400> 278
gnnnntgaaa gtatacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                         60
cggcccgcca gtgtgatgga tatctgcaga attcgccctt tcgagcggcc gcccgggcag
                                                                        120
gtacagctgc ccaagggcgt tcgtaacggg aatgccgaag cgtgtgaaaa agggagcggt
                                                                        180
ggcggaagac ggggatgagc tcaggacaga gccagaggcc aagaagagta agacggccgc
                                                                        240
aaagaaaaat gacaaagagg cagcaggaga gggcccagcc ctgtatgagg accccccaga
                                                                        300
tcagaaaacc tcacccagtg gcaaacctgc cacactcaag atctgctctt ggaatgtgga
                                                                        360
tgggcttcga gcctggatta agaagaaagg attagattgg gtaaaggaag aagccccaga
                                                                        420
tatactgtgc cttcaagaga ccaaatgttc agagaacaaa ctaccagctg aacttcagga
                                                                        480
gctgcctgga ctctctcatc aatactggtc agctccttcg gacaaggaag ggtactagca
                                                                        540
actaaccatg gttaaaaggt cttagtcaga attacaaaaa caaaacattt agagtaatac
                                                                        600
ttatgaatac aagcataatt ggttcctcgc cttctacaaa taaccatctt gaaaatgata
                                                                        660
aaagcaggtt tcaactgtgg tcttctctca ttgagaaggt gcagatacac atgggtgatc
                                                                        720
tactgattta ccttcttgaa agtnctcg
                                                                        748
      <210> 279
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (727)
      <223> n = A,T,C or G
      <400> 279
gnnnnttcga ntgggccctc tngngcatgc tcgagcggca cgccagtgtg atggatatct
                                                                        60
gcagaattcg ccctttcgag cggccgcccg ggcaggtaca gctgcccaag ggcqttcgta
                                                                       120
acgggaatgc cgaagcgtgt gaaaaaggga gcggtggcgg aagacgggga tgagctcagg
                                                                       180
acagagecag aggecaagaa gagtaagaeg geegeaaaga aaaatgacaa agaggeagea
                                                                       240
ggagagggcc cagccctgta tgaggacccc ccagatcaga aaacctcacc cagtggcaaa
                                                                       300
cctgccacac tcaagatctg ctcttggaat gtggatgggc ttcgagcctg gattaagaag
                                                                       360
aaaggattag attgggtaaa ggaagaagcc ccagatatac tgtgccttca agagaccaaa
                                                                       420
tgttcagaga acaaactacc agctgaactt caggagctgc ctggactctc tcatcaatac
                                                                       480
tggtcagctc cttcggacaa ggaagggtac tagcaactaa ccatggttaa aaggtcttag
                                                                       540
tcagaattac aaaaacaaaa catttagagt aatacttatg aatcaagcat aattggttcc
                                                                       600
tcgccttcta caaataccat ctttgaaaat gatnaaaagc aggtttcaac tgtggttctt
                                                                       660
```

```
ctctcanttg aaaaggtcag atcccatggg tgatctactg atttaccttc tgaaaagtac
                                                                           720
ttggccg
                                                                           727
      <210> 280
      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(751)
      <223> n = A, T, C \text{ or } G
      <400> 280
gnnnntgann gtatacgact cactataggg cgaattgggc cctctagatg catgctcgag cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                            60
                                                                           120
cteatgtatt tttttttt tccagatctc tttccccaag ttgctattgt aagagtattc
                                                                           180
tgctgcgtgt ggatgcagtt atacacatta aagcagatct ggagtctgaa gtagctataa
                                                                           240
agcagctata aaacagaaat acatgcatag ctgcagaaac catgataggt agaggacttt
                                                                           300
tcttttggtt ttgttttgtt ttgttttgtt ttgtttttgg ttttacagag aagagatttt
                                                                           360
tattacaaag aaaaaaattc cagtgaattg tgcagaaatg ctggttttta caccatccta
                                                                           420
aagaaaaact ttacaagggt gttttggagt agaaaaaagg ttataaagtt ggaatcttaa
                                                                           480
attgtaaaat taaccattga gtgtcaaagt tctaaaagca gaactcattt tgtgcaatga
                                                                           540
acataaggaa agactactgn ataggttttt tttttctcct tttaaatgaa gaaaagcttt
                                                                           600
gcttaagggt tgcatacttt tattggagta aatctgaatg atcctactcc tttggagtaa
                                                                           660
aactagtgct taccagtttc caattggatt taacttctgg ggtggaattt ggaaaaaaaa
                                                                           720
agaannnngg aaaaagaaaa cctaanttaa n
                                                                           751
      <210> 281
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (727) ·
      <223> n = A,T,C or G
      <400> 281
gnnnttcgan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                           60
cagaattege cettagegtg gtegeggeeg aggtaeteat gtatttttt ttttteeag atetetttee ceaagttget attgtaagag tattetgetg egtgtggatg eagttataca
                                                                          120
                                                                          180
cattaaagca gatctggagt ctgaagtagc tataaagcag ctataaaaca gaaatacatg
                                                                          240
300
ttgttttgtt tttggtttta cagagaagag atttttatta caaagaaaaa aattccagtg
                                                                          360
aattgtgcag aaatgctggt ttttacacca tcctaaagaa aaactttaca agggtgtttt
                                                                          420
ggagtagaaa aaaggttata aagttggaat cttaaattgt aaaattaacc attgagtgtc
                                                                          480
aaagttetaa aageagaact cattttgtge aatgaacata aggaaagaet actgnatagg
                                                                          540
tttttttttt ctccttttaa atgaagaaaa gctttgctta agggttgcat acttttattg
                                                                          600
gagtaaatct gaatgatect acteetttgg agtaaaacta gngetteeag tttecaattg
                                                                          660
gatttaactt ctggntggaa tttgnaaaaa aaagaanaaa aggaaaanga aaccctaant
                                                                          720
                                                                          727
naaatag
      <210> 282
      <211> 749
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) . . . (749)
      <223> n = A, T, C \text{ or } G
```

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ccatgggggc aaccatccca gaactnetge tgagcaacca tgcctactgg tggaagcate
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atgetteeca ttatgetgtt angangtgta ceeengggaa actggggtag etgtgggata
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tccatctgan ccggaccat
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       <211> 721
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cagaattege cettagegtg gtegeggeae gaggtacaae ataaageaae agagaggtet
                                                                          120
tcatgtttgg gaagtggctg ggcaggatgc caaaccccaa atgacttatt gagcaatttc
                                                                          180
taaaccaaac agagaggtag gaaaagagga tgggggtcag gggtggaggc tgtggaaagg ggagagcgag ggctgaagag aatggcagcc atacaggtgt tttgttttta tttccacatc
                                                                          240
                                                                          3,00
tgaggactga gagtctgatt tgctgcctgt ccatttccgc cactcattga ctgtccatag
                                                                          360
ttcatcatgc cattggctcc atagaagttc atcccagcca tctgctgggt catctgagta
                                                                          420
aggttccatt gcagctgctg agctggctgg accccataca cagtctgggg catagctgcc
                                                                          480
atgcctgcca tgtagccagc ctgctgggtg gtcatcattc cattcggcac acccatcatt
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gatgcctgca tgccacccat atagcctgca ngcatggcca tgggggcaac catcccagaa
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ctcctggctg agcaaccatg cctactggtg gangcatcat gcttcccatt atgctgttag
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gangtgtacc ccggggaanc tggggtagct gtgggatatc catttaaccg gagccatgaa
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      <211> 757
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(757)
      <223> n = A,T,C or G
      <400> 286
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                                                                          120
gacgcggggg ttgcaccatg gcgtccatgg ggaccctcgc cttcgatgaa tatgggcgcc
                                                                          180
ettteeteat catcaaggat caggacegea agteeegtet tatgggaett gaggeeetea
                                                                          240
agtctcatat aatggcagca aaggctgtag caaatacaat gagaacatca cttggaccaa
                                                                          300
atgggcttga taagatgatg gtggataagg atggggatgt gactgtaact aatgatgggg
                                                                          360
ccaccatctt aagcatgatg gatgttgatc atcagattgc caagctgatg gtggaactgt
                                                                          420
ccaagtetea ggatgatgaa attggagatg gaaccacagg agtggttgte ctggetggtg
                                                                          480
cettgttaga agaageggag caattgetag acegaggeat teacecaate agaatageee
                                                                         540
gatggctatg agcaggctgc tcgcgttgct attgaacacc tggacaagat cagcgatagc
                                                                         600
gteettgttg acataaagga caeegaaeee etgatteaga cageaaaaaa ceaegetggg
                                                                         660
cttncaaaag tggtcaacag ttgtcaccga cagatggctt gaaaattgct gtgaaatgcc
                                                                         720
cgtccttact gtaaccagat atngaaccgg aaaagac
                                                                         757
      <210> 287
      <211> 726
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
     <222> (1)...(726)
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$\langle 223 \rangle$ n = A,T,C or G

<400> 287 gnnnnactga tttctggctc gaagttgnat ntgcggncgc cagtgtgatg gatatctgca 60 gaattegeee tttegagegg eegeeeggge aggaegeggg ggttgeacea tggegteeat 120 ggggaccete geettegatg aatatgggeg ceettteete ateateaagg ateaggaceg 180 caagtcccgt cttatgggac ttgaggccct caagtctcat ataatggcag caaaggctgt 240 agcaaataca atgagaacat cacttggacc aaatgggctt gataagatga tggtggataa 300 ggatggggat gtgactgtaa ctaatgatgg ggccaccatc ttaagcatga tggatgttga 360 tcatcagatt gccaagctga tggtggaact gtccaagtct caggatgatg aaattggaga 420 tggaaccaca ggagtggttg tcctggctgg tgccttgtta gaagaagcgg agcaattgct 480 agaccgagge atteacceaa teagaatage eegatggeta tgageagget getegegttg 540 ctattgaaca cctggacaag atcagcgata gcgtccttgn tgacataaag gacaccgaac 600 ccctgattca gacagcaaaa accacgctgg gctccaaaag tggtcaacag ttgtcaccga 660 cagatggctg aaaatgctgt gaatgccgtc ctnctgtanc agatatngaa ccggaaaaga 720 ccttga 726 <210> 288 <211> 743 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1)...(743) <223> n = A, T, C or G<400> 288 gnnntganng tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgcccttcg gccgcccggg caggtacctt 120 ttacctaaaa ttctagccac tttaatttgg agagtttcca gagcaaaggg cacagatccc 180 aggcataaca acgctttgcg tatacagcaa ccaatatctt gtcaacccaa gaaagttcct 240 ccattgatac ctagtagaaa tagcccagtt tttaaagtcc tcaaaactgt aacaaattac 300 ttgtttttaa aatttaactt aaattaatac aatcagattt ttgtgttatt tgggtattag 360 agtatgttaa agcacatata toocagagac atagagttto cgtttcaaaa agtcatgcat 420 tcatgtgtgc taatgacaat cctatcctga cccgctatgt gacttgtatc tctaaaccat 480 aggettteet gaattttate tgttaattta accetgattt eteageagea gettetettt 540 gtaaatagac ttgcctcttc tgtgtctgac ctctgctcct cataatcaga ttaactcaga 600 taaagctgct tcagggaaga ggtcaaaacc gttgccaaaa atagtagttg ccctacttca 660 gtctattttc aacagagtag cccaggagat ctgtcacacc aaagtccaat cagccctact 720 ggtagcactc tgntcacaag ccn 743 <210> 289 <211> 726 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1) ... (726) <223> n = A, T, C or G<400> 289 gnnnnnactc gcagtccgtc tagatgcatg ctcgagcggc cgccagtgtq atqqatatct 60 gcagaattcg cccttcggcc gcccgggcag gtacctttta cctaaaattc tagccacttt 120 aatttggaga gtttccagag caaagggcac agatcccagg cataacaacg ctttgcgtat 180 acagcaacca atatettgte aacceaagaa agtteeteea ttgataeeta gtagaaatag 240 cccagttttt aaagtcctca aaactgtaac aaattacttg tttttaaaat ttaacttaaa 300 ttaatacaat cagatttttg tgttatttgg gtattagagt atgttaaagc acatatatcc 360 Cagagacata gagtttccgt ttcaaaaagt catgcattca tgtgtgctaa tqacaatcct 420 atcctgaccc gctatgtgac ttgtatctct aaaccatagg ctttcctgaa ttttatctgt 480 taatttaacc ctgatttctc agcagcagct tctctttgta aatagacttg cctcttctqt 540

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gtctgacctc tgctcctcat aatcagatta actcagataa agctgcttca gggaagaggt
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caaaaccgtt gccaaaaata gtagttgccc tacttcagtc tattttcaac agagtagcca
                                                                         660
ggagatetgt teacaceaaa gtecaateag ceetactggt ageaetetge teacaageet
                                                                         720
ncaqtq
                                                                         726
      <210> 290
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (740)
      <223> n = A, T, C \text{ or } G
      <400> 290
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ggccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaqqtac
                                                                        120
ccagatgtct ttctcggtca ccttcccgag accatttaag acctccctag ctgctcgttc
                                                                        180
tecageetea aetgeeeett ecatgtagee geteeaettt gtggeagtet etgtgeeege
                                                                        240
aaagaaaatc ctgcccacgg gttgacgaat cacccttcca tattgagtca tgatcccagg
                                                                        300
agggaagtag geegtgtage ageeceeaga gtaeetgeee gggeggeege tegaaaggge
                                                                        360
gaattccagc acactggcgg ccgttactag tggatccgag ctcggtacca agcttggcgt
                                                                        420
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca
                                                                        480
tacgagccgg aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat
                                                                        540
taattgcgtt gcgctcactg cccgctttcc agtcgggaaa cctgtcgtgc cagctgcatt
                                                                        600
aatgaategg ceaacgegee ggggagagge ggnttgegta ttgggegete ttnegettte
                                                                        660
tngctcactg actcgctgcg ctcggtcgtt cggctgcggc nagcggtatc agctcattaa
                                                                        720
angcggtaat acggtatccn
                                                                        740
      <210> 291
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(724)
      \langle 223 \rangle n = A,T,C or G
      <400> 291
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                                                                         60
cagaattege cettagegtg gtegeggeeg aggtaceeag atgtetttet eggteacett
                                                                        120
cccgagacca tttaagacct ccctagctgc tcgttctcca gcctcaactg ccccttccat
                                                                        180
gtagccgctc cactttgtgg cagtctctgt gcccgcaaag aaaatcctgc ccacgggttg
                                                                        240
acgaatcacc cttccatatt gagtcatgat cccaggaggg aagtaggccg tgtagcagcc
                                                                        300
cccagagtac ctgcccgggc ggccgctcga aagggcgaat tccagcacac tggcggccgt
                                                                        360
tactagtgga tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg
                                                                        420
tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta
                                                                        480
aageetgggg tgeetaatga gtgagetaae teacattaat tgegttgege teactgeeeq
                                                                        540
ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcggccaa cgcgcgggga
                                                                        600
gaggcggttt gcgtattggg cgctcttccg cttcctcgct cactgactcg ctgcgcttng
                                                                        660
nccgtccggt tgcggcagcg gtataactna ctcaaaggcg gtaataccgg tatncacaga
                                                                        720
atca
                                                                        724
      <210> 292
      <211> 740
      <212> DNA
      <213> Homo Sapien
     .<220>
      <221> misc feature
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420

480

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<222> (1) ... (740)
       <223> n = A,T,C or G
       <400> 292
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                                                                         120
 cagaaagaat caaagaacat atatatat taagtttcat tccaacctac aaagagcctg
                                                                         180
 cacttaaaag tottaaaggt ttootgaato atggaatoto aacttacotg coaattaato
                                                                         240
 cagttetete tttttaaatg cagaeteeaa eettaaacag aaggeatatt etagetgaet
                                                                         300
 tetaagtgtg tecaaageat aceteagaga gecaagtggt etgtgtteaa tacetattet
                                                                         360
ttctatagaa tctcaaaagt ggcagtatga tgaaaagaaa agctactttt tctcctaaaa
                                                                         420
ataccccct tcatcatcag tgtgttgtca tttttgcatc acaaagaata gacattctaa
                                                                         480
atgttccctt ccacacagaa agacataaga gagaatgtga gtatgagtga gagtgtgtag
                                                                         540
gtaagttgag ggatagtttg ctatccaaaa tgaatcattt tgaagatgac tttgtaaaga
                                                                        600
agtaatatag ttaaaaatct caagacatga gattgangan ggcagggaaa taaaggacct
                                                                        660
angaatggaa aagagttaca gcccatgtga atacatacac aaacctacca ggttatttct
                                                                        720
gngaattctc acacaggttg
                                                                        740
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      <211> 723
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(723)
      <223> n = A, T, C \text{ or } G
      <400> 293
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                                                                         60
gcagaattcg cccttagcgt ggtcgcggcc gaggtacaga aagaatcaaa gaacatatat
                                                                        120
atatattaag tttcattcca acctacaaag agcctgcact taaaagtctt aaaggtttcc
                                                                        180
tgaatcatgg aatctcaact tacctgccaa ttaatccagt tctctctttt taaatgcaga
                                                                        240
ctccaacctt aaacagaagg catattctag ctgacttcta agtgtgtcca aagcatacct
                                                                        300
cagagagcca agtggtctgt gttcaatacc tattctttct atagaatctc aaaagtggca
                                                                        360
gtatgatgaa aagaaaagct actttttctc ctaaaaatac ccccttcat catcaqtqtq
                                                                        420
ttgtcatttt tgcatcacaa agaatagaca ttctaaatgt tcccttccac acagaaagac
                                                                        480
ataagagaga atgtgagtat gagtgagagt gtgtaggtaa gttgagggat agtttgctat
                                                                        540
ccaaaatgaa tcattttgaa gatgactttg taaagaagta atatagttaa aaatctcaag
                                                                        600
agcatgagat tganganggc agggaaataa angcctagga atggaaaaga gttaacagcc
                                                                        660
catgtgaata catagcacaa acctaccagg ttatttctgg gaatctnacc agtttgctgg
                                                                        720
aaa
                                                                        723
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      <211> 736
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      <221> misc_feature
      <222> (1) ... (736)
      <223> n = A,T,C \text{ or } G
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gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                        120
cctgggatta caggcaccca ccaccacgcc tggctaattt ttttttgtat ctttagtagg
                                                                        180
gttttgccat gttggccagg ctggtcttta actcctacct cgtgatccac ccgcctcggc
                                                                        240
cccccaaagt gctaggacca caggcgtgag ccaccacgcc cagccccctg tctcttttt
                                                                        300
taaaacacaa tttaaaagca gaaagaaaaa atctgtgctg tttagactca gattcttaat
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tagctagtat ttcttaattc aatcaataaa ttattaagac cttttcactg ctcccttttt

aaagtettet ttggagtgat ttaagtgett ettattaeea ageteteaaa gagaagataa

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aattaaaatc tgatgggtaa ccatttaaat aagacaactg gggtaaccca tttctccagg
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acceptetet geaacagaga getattetet ttetttggee tagtaaacet etgetettaa
                                                                       600
                                                                       660
cctttaaaaa aaaaaaaaa gtacctcggc cgcgaccacg ctaanggcga attccagcac
actggcggcc gttactagtg gatccgaact cggtccaact tggcgtaatc atggcatagt
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                                                                       736
ggttcctgng tgaaan
      <210> 295
      <211> 725
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      <223> n = A,T,C or G
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                                                                       120
caccacgcct ggctaatttt tttttgtatc tttagtaggg ttttgccatg ttggccaggc
                                                                       180
tggtctttaa ctcctacctc gtgatccacc cgcctcggcc ccccaaagtg ctaggaccac
                                                                       240
aggogtgago caccacgooc agcoccotgt ctctttttt aaaacacaat ttaaaagcag
                                                                       300
aaagaaaaaa tetgtgetgt ttagaeteag attettaatt agetagtatt tettaattea
                                                                       360
atcaataaat tattaagacc ttttcactgc tcccttttta aagtcttctt tggagtgatt
                                                                       420
taaqtgcttc ttattaccaa gctctcaaag agaagataaa attaaaatct gatgggtaac
                                                                       480
catttaaata agacaactgg ggtaacccat ttctccagga cccctctctg caacagagag
                                                                       540
ctattctctt tctttggcct agtaaacctc tgctcttaac ctttaaaaaa aaaaaaaaag
                                                                       600
tacctcggcc gcgaccacgc taagggcgaa ttccagcaca ctggcggccg ttactagtgg
                                                                       660
atccgaactc ggtaccaagc ttgcgtaatc atggcatagc tggttcctgt gtgaaatggt
                                                                       720
                                                                       725
      <210> 296
      <211> 742
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      <222> (1) ... (742)
      <223> n = A,T,C or G
      <400> 296
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gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                       120
ccatgctgac tictiggtat ctittaaggc ctaattttcc cttccttgag attactgtag
                                                                       180
tgtgttccag ctaatttcta tttggaaacg agttggaaca gctgaaaact aggtattatt
                                                                       240
gaaggcaaag cagcctcacg tcagtttttt atcagctcat ttgggaagtt ttttttttt
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                                                                       360
ttttttttta attaattaga aagtaggetg ggeaeggtgg eteatgeeta taateeeage
                                                                       420
acttggggag gccgaggatc tcctctctgg tggatcactt gagggcagga gttaagagac
catcctggcc aacatgatga aaccctgtct ctactaaaaa tacaaaaagt agctgggcgt
                                                                       480
ggtggcatac tettacaate ceagetactt gggaggetga ggeaggagaa teaettgaae
                                                                       540
ctaggaagca gaggttgcag tgggccaaga tcacaccact atactctagc ctgggcgaca
                                                                       600
gaagtgggga aaaaagtagg acccetgtce tatatteang gtttteteac atatatgaac
                                                                       660
ccatctaaat tctacgttgg taaaaggaac ctaaggttaa ttagnctata cttattaag
                                                                       720
                                                                       742
aaccattntg gggnggagat gg
      <210> 297
      <211> 728
      <212> DNA
      <213> Homo Sapien
      <220>
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<221> misc_feature
      <222> (1)...(728)
      <223> n = A,T,C or G
      <400> 297
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gcagaattcg ccctttcgag cggccgcccg ggcaggtacc atgctgactt cttggtatct
                                                                         120
tttaaggcct aattttccct tccttgagat tactgtagtg tgttccagct aatttctatt
                                                                         180
tggaaacgag ttggaacagc tgaaaactag gtattattga aggcaaagca gcctcacgtc agttttttat cagctcattt gggaagtttt tttttttt tttttttaat taattagaaa
                                                                         240
                                                                         300
gtaggctggg cacggtggct catgcctata atcccagcac ttgggggaggc cgaggatctc
                                                                         360
ctctctggtg gatcacttga gggcaggagt taagagacca tcctggccaa catgatgaaa
                                                                         420
ccctgtctct actaaaaata caaaaagtag ctgggcgtgg tggcatactc ttacaatccc
                                                                         480
agctacttgg gaggctgagg caggagaatc acttgaacct aggaagcaga ggttgcagtg
                                                                         540
ggccaagatc acaccactat actctagcct gggcgacaga agtggggaaa aaagtaggac
                                                                         600
ccctgtccta tattcangtt tttctcacat atatgaaccc atctaaattc tacgttggta
                                                                         660
aaggtanctt aagttaatta gnctatactt atttaaganc aatatggggt gaaaatggat
                                                                         720
ttttttn
                                                                         728
      <210> 298
      <211> 745
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (745)
      <223> n = A, T, C \text{ or } G
      <400> 298
gnnnnnttna nnnnatacga ctcactatat agggcgaatt gggccctcta gatgcatgct
                                                                          60
cgagcggccg ccagtgtgat ggatatetgc agaattegcc ettagcgtgg tegeggccga
                                                                         120
ggtacccacg ttttgctcca cactccttga ccgcaggggc tcggacacaa acccctgtca
                                                                         180
ccaggagagt cagtcagcac tacttgggag ggctaaaggg aaatttggaa ataaaattcc
                                                                         240
aaagtttgga gtaaaaaaat tcaagtgttg attttatatt ctttcccttt ctgacacagc
                                                                         300
ctaaagcgta gggggaacat gtgtttatct gtgggagata aacaagatgg agtcccaaag
                                                                         360
actttaacaa aatatttttt taaaaatcca ctagaataga aaatacatta tttagatata
                                                                         420
ctttatgctg agagtgagta tatatgcttg tcctatttaa acttgtgaga aaaagtggta
                                                                         480
tcccttgata catttagaaa tatgggggct atcttgtttc attgtggggg tggggcagaa
                                                                         540
ggagaataaa tgcaggatga ccctgttgaa ggaatcttag catggccaac aggggacgtt
                                                                         600
tccagtcgat taccaggaaa tgcaagcctt ggggtttcta ctggtggtgg ggctgtcatg
                                                                         660
aactttaaaa tccaaagcct agacaaggaa aagtgttaga ccaattgaaa agcaatccac
                                                                         720
ccttttttt ttttttttt ggctt
                                                                         745
      <210> 299
      <211> 733
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(733)
      <223> n = A,T,C or G
      <400> 299
gnnnnnnnn nnnnnncct ctagatgctg ctcgaacggc cgccagtgtg atggatatct
                                                                          60
gcagaattcg cccttagcgt ggtcgcggcc gaggtaccca cgttttgctc cacactcctt
                                                                         120
gaccgcaggg gctcggacac aaacccctgt caccaggaga gtcagtcagc actacttggg
                                                                         180
agggctaaag ggaaatttgg aaataaaatt ccaaagtttg gagtaaaaaa attcaagtgt
                                                                         240
tgattttata ttctttccct ttctgacaca gcctaaagcg tagggggaac atgtgtttat
                                                                         300
ctgtgggaga taaacaagat ggagtcccaa agactttaac aaaatatttt tttaaaaatc
                                                                         360
cactagaata gaaaatacat tatttagata tactttatgc tgagagtgag tatatatgct
                                                                         420
```

<213> Homo Sapien

```
tgtcctattt aaacttgtga gaaaaagtgg tatcccttga tacatttaga aatatggggg
                                                                        480
ctatcttgtt tcattgtggg ggtggggcag aaggagaata aatgccagga tgaccctgtt
                                                                        540
gaaggaatct tancatggcc aacaggggac gtttccagtc gattaccagg aaatgcaagc
                                                                        600
cttggggttt ctactggtgg tggggctgtc atgaacnttt aaaatccaaa gcctagacca
                                                                        660
aggaaaagtg ttaganccan tggaaaagcc attccagccc tttttttttn nnnntttttg
                                                                        720
gcttttcacc aca
                                                                        733
      <210> 300
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (741)
      <223> n = A,T,C or G
      <400> 300
gnnnntgann gtatacgaac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                         60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                        120
gtacgtagtc taggccatat gtgttggaga ttgagactag tagggctagg cccaccgctq
                                                                        180
cttcgcaggc ggcaaagact agtatggcaa taggcacaat attggctaag agggagtggg
                                                                        240
tgttgagggt tatgagagta gctataatga acagcgatag tattattcct tctaggcaca
                                                                        300
gtagggagga tatgaggtgt gagcgatata ctagtattcc tagaagtgag atggtaaatg
                                                                        360
ctagtataat atttatgtaa atgaggggcc ccgcgtactc aaqtqqqtct ctqcctctca
                                                                        420
gtggtggcct tggtcttcaa gtttcagcaa ttctgggaag ccaaggacac ctccatctcc
                                                                        480
tecteeetga tetgeaacte atetaagage agetttetea etggaatgte ttgtgtttaa
                                                                        540
ggaacaagaa teeetgttte eggtttgggt geeeaagtge acetaetgga teeaacecag
                                                                        600
gattggagat actttgcaga acacacatc atctggcaca tgaccagcca tggtgtttca
                                                                        660
ctttcacaat ttcagcttnc ttcactgatt gcagcataat cgnggtcaac accttcaaga
                                                                        720
ccaaggctga tgtgggccgc t
                                                                        741
      <210> 301
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (724)
      <223> n = A,T,C \text{ or } G
      <400> 301
gnnnnntncn antgggccct ctngngcatn gctcgagcgg cacgccagtg tgatggatat
                                                                        60
ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cgtagtctag gccatatgtg
                                                                        120
ttggagattg agactagtag ggctaggccc accgctgctt cgcaggcggc aaagactagt
                                                                        180
atggcaatag gcacaatatt ggctaagagg gagtgggtgt tgagggttat gagagtagct
                                                                       240
ataatgaaca gcgatagtat tattccttct aggcacagta gggaggatat gaggtgtgag
                                                                       300
cgatatacta gtattcctag aagtgagatg gtaaatgcta gtataatatt tatgtaaatg
                                                                       360
aggggccccg cgtactcaag tgggtctctg cctctcagtg gtggccttgg tcttcaagtt
                                                                       420
tcagcaattc tgggaagcca aggacacctc catctcctcc tccctgatct gcaactcatc
                                                                       480
taagagcage titeteactg gaatgtettg tgtttaagga acaagaatee etgttteegg
                                                                       540
tttgggtgcc caagtgcacc tactggatcc aacccaggat tggagatact ttgcagaaca
                                                                       600
caacatcatc tggcacatga ccagccatgg tgtttcactt tcacaatttc agcttncttc
                                                                       660
actgattgca cataatcgtg gtcaacacct tcaagaccan ggctgatgtn ggccgntaca
                                                                       720
                                                                       724
ngga
      <210> 302
      <211> 745
      <212> DNA
```

```
<220>
       <221> misc_feature
       <222> (1)...(745)
       <223> n = A,T,C or G
       <400> 302
gnnnntgaaa gtntanacga ctcactatag ggcgaattgg gccctctaga tgcatgctcg
                                                                              60
ageggeegee agtgtgatgg atatetgeag aattegeeet ttegagegge egeeegggea
                                                                             120
ggtactattc cggatataca agatcactgg gagatgttga tgatggagac acaqtqacaq
                                                                            180
atttcatggc ccaagagcga gaaagaggca ttactattca atcagctgct gttacatttg
                                                                             240
attggaaagg ttatagagtc aatctaattg atacaccagg tcatgtggac tttaccttgg
                                                                             300
aggttgagcg gtgcctaaga gtgttggatg gtgcagtggc tgtatttgat gcctctgctg
                                                                            360
gtgtagaggc ccagactctc acagtatgga ggcaagctga taaacacaat atacctcgaa
                                                                            420
tctgtttttt aaacaagatg gacaaaactg gagcaagctt taagtatgca gttgaaagca
                                                                            480
tcagagagaa gttaaaggca aagcctttgc ttttacagtt accaattggt gaagccaaaa
                                                                            540
ctttcaaagg agtggtggat gtagtaatga aagaaaaact tctttggaat tgcaattcaa
                                                                            600
atgatggaaa agactttgag agaaagcccc tcttggaaat gaatgatcct gaattqctga
                                                                            660
aggaaacaac tgaagcaagg aatgccttaa ttgaacaagt tgcagaattt ggatgatqaa
                                                                            720
ttgctgactt gggtttanaa naaat
                                                                            745
      <210> 303
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(724)
      \langle 223 \rangle n = A,T,C or G
      <400> 303
gnnnttegan tgggecette tagatgeatg etegagegge egecagtgtg atggatatet
                                                                             60
gcagaattcg ccctttcgag cggccgcccg ggcaggtact attccggata tacaagatca ctgggagatg ttgatgatgg agacacagtg acagatttca tggcccaaga gcgagaaaga ggcattacta ttcaatcagc tgctgttaca tttgattgga aaggttatag agtcaatcta
                                                                            120
                                                                            180
                                                                            240
attgatacac caggicatgi ggactitacc tiggaggitg ageggitgect aagagigitg
                                                                            300
gatggtgcag tggctgtatt tgatgcctct gctggtgtag aggcccagac tctcacagta
                                                                            360
tggaggcaag ctgataaaca caatatacct cgaatctgtt ttttaaacaa gatggacaaa
                                                                            420
actggagcaa gctttaagta tgcagttgaa agcatcagag agaagttaaa ggcaaagcct
                                                                            480
ttgcttttac agttaccaat tggtgaagcc aaaactttca aaggagtggt ggatgtagta
                                                                            540
atgaaagaaa aacttetttg gaattgeaat teaaatgatg gaaaagaett tgagagaaag
                                                                            600
cccctcttgg aaatgaatga tcctgaattg ctgaaggaaa caactgaagc aaggaatgcc
                                                                            660
ttaattgaca agttgcagat ttggatgatg aatttgctga cttggtttta gaagaattan
                                                                            720
tgag
                                                                            724
      <210> 304
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(741)
      \langle 223 \rangle n = A,T,C or G
      <400> 304
gnnnnnngaa agtntacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                             60
geggeegeea gigtgatgga tatetgeaga attegeeett agegtggteg eggeegaggt
                                                                            120
actttataaa tggaattttc ttctacttgt atccatttcc cggggcttat ggacccattc
                                                                            180
atacteteca tatttagaat caaaggttee tttetgaaga gacettaatt ttaaggtaaa
                                                                            240
acgtggtcca agttcctgaa ttcccacttt cttttcactc ctgaatatgt atctgtgaaa
                                                                            300
tctgaagaat atgtaatccc gttgattgtg gaatgtggca acctgccttc cgataaattg
                                                                            360
```

<213> Homo Sapien

```
aggattatga ggaaagagag atgcaaacat acgtccaatt gaatgaccca gccgtgttgt
                                                                           420
aaaattattc agaattattt caggtatgtg ttctgtgggg tccttgcctc ttctcttaat ttctttacga agacgaacac tgctcatttt aaaatgagca gttgggccat ttggcaagtg
                                                                           480
                                                                           540
 actcaaaata agtccatttg gggttttacg atcttcatta ataacaatca ggtctgtgaa
                                                                           600
 atctcttgcg atgcactgtg gaataatttt tttcagaacc agcctcttct gtaataaaca
                                                                          660
 tgtgagtttg gtataactgt gganagctgt cacagagtcg taccagtata ccaaccatac
                                                                          720
caactntgtt gtagagcaaa a
                                                                          741
       <210> 305
       <211> 719
       <212> DNA
       <213> Homo Sapien
       <220>
      <221> misc_feature
       <222> (1)...(719)
       <223> n = A, T, C \text{ or } G
      <400> 305
gnnnttncaa ntgggccctc tngatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                          . 60
gcagaattcg cccttagcgt ggtcgcggcc gaggtacttt ataaatggaa ttttcttcta
                                                                          120
cttgtatcca tttcccgggg cttatggacc cattcatact ctccatattt agaatcaaaq
                                                                          180
gttcctttct gaagagacct taattttaag gtaaaacgtg gtccaagttc ctgaattccc
                                                                          240
actttctttt cactcctgaa tatgtatctg tgaaatctga agaatatgta atcccgttga
                                                                          300
ttgtggaatg tggcaacctg ccttccgata aattgaggat tatgaggaaa gagagatgca
                                                                          360
aacatacgtc caattgaatg acccagccgt gttgtaaaat tattcagaat tatttcaggt
                                                                          420
atgtgttctg tggggtcctt gcctcttctc ttaatttctt tacgaagacg aacactgctc
                                                                          480
attttaaaat gagcagttgg gccatttggc aagtgactca aaataagtcc atttggggtt
                                                                          540
ttacgatett cattaataac aatcaggtet gtgaaatete ttgcgatgca etgtggaata
                                                                          600
attttttcag agccagtcct cttctgtaat aaacatgtga agtttggtat actgtggana
                                                                          660
gctgtcacag agtcgacagt ataccaacca taccaactct gttgnagaac anaacccat
                                                                          719
      <210> 306
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A,T,C or G
      <400> 306
gnnnnntgaa agtatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                           60
gcggccgcca gtgtgatgga tatctgcaga attcgccctt tcgagcggcc gcccgggcag
                                                                          120
gtactccagc ccaggcgaca gagtgagact cagtctcaaa aaaaaaaaa atttgggcaa
                                                                          180
gttatagtcc atctcatagt gttgttagga ctaatttctt catgtgctta gaaaaatgcc
                                                                         240
tggcagatag gaaatggtca atattattat tattgataag atgaccattt tggagtttag
                                                                         300
aaaaccattt tcaatgccta tgaaataaca actccataag ccattccctt aaatccagta
                                                                         360
gactgaattc tcacaagtcc tcatcactca tcatttctac atcctgctga tttacaaata
                                                                         420
cttcttcata ccatggttta tgtctttgct taatatcaag gaggatggat tccatggtag
                                                                         480
agccaaactc aatgatacta cgagtctcat tttggtaagt ataagcaaag ccagcagcat
                                                                         540
gcatggccac caatgaacct tttgaatcaa acacagggga gcccggaagc cccaaagaaa
                                                                         600
aattcagtgt cataggtaat cacatcangg ttgtgaacta ttttctggaa acttctttga
                                                                         660
gtatacatat ggacatactc tggactttct gcttttttag actgaacacg ttcctgacat
                                                                         720
ttctttgctc gctgaccctg anggat
                                                                         746
      <210> 307
      <211> 725
      <212> DNA
```

```
<220>
      <221> misc feature
      <222> (1)...(725)
      \langle 223 \rangle n = A,T,C or G
      <400> 307
gnnnnntnen antggeeete tagatgeatg etegagegge egeeagtgtg atggatatet
                                                                         60
gcagaatteg ccetttegag eggeegeeeg ggeaggtaet ccageecagg egacagagtg
                                                                        120
agactcagtc tcaaaaaaaa aaaaaatttg ggcaagttat agtccatctc atagtgttgt
                                                                        180
taggactaat ttcttcatgt gcttagaaaa atgcctggca gataggaaat ggtcaatatt
                                                                        240
attattattg ataagatgac cattttggag tttagaaaac cattttcaat gcctatgaaa
                                                                        300
taacaactcc ataagccatt cccttaaatc cagtagactg aattctcaca agtcctcatc
                                                                        360
acteateatt tetacateet getgatttae aaataettet teataceatg gtttatgtet
                                                                        420
ttgcttaata tcaaggagga tggattccat ggtagagcca aactcaatga tactacgagt
                                                                        480
ctcattttgg taagtataag caaagccagc agcatgcatg gccaccaatg aaccttttga
                                                                        540
atcaaacaca ggggagccgg aagccccaaa gaaaaattca gtgtcatagg taatcacatc
                                                                        600
anggttgtga actattttct ggaaacttct ttgagtatac atatggacat actctggact
                                                                        660
ttctgctttt ttagactgac acgttcctga catttctttg ctcgctgacc ctgagggatc
                                                                        720
                                                                        725
      <210> 308
      <211> 744
      <212> DNA
      <213 > Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A,T,C or G
      <400> 308
                                                                         60
qnnnntgaaa gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                        120
gtacgcgggg tgacaagtag caacatggct tgggtcccct gtgcagcatc agcttatgct
                                                                        180
qccacaaqtc agtttgcacc ctaggtaccc aggagctagt atccttagat ctttctatcg
                                                                        240
ctaacttaat totottogtt atttatotga coototaact coatgtotaa ottgoattaa
                                                                        300
aaaaaaaaaa attotttaca gtoaacccaa gottaacatg gactcaggtt ccccagcagc
                                                                        360
cttaatttgt tttgttaaca tctgttcctt ctttttcagc tctcctagag tatttctgag
                                                                        420
                                                                        480
tgttgtgttc atctaatctt agtattcttt taattacaaa ttgacctcac agcttgaggt
ttcctgtgtc ttattctgtg gactacctgt gctcctttgc ttcccctccc ctcgcataat
                                                                        540
aactatatta agaaattttt tttggccttg agttggctgg aaaaaaaata taaaatttaa
                                                                        600
                                                                        660
aaaaaaaaan nnnnnnnnaa aaaaaaaaag tacctnggcc gggaccacgc taanggcgaa
ttccagcaca ctggcggccg ttactaagtg gatccgaact cggtaccaac ttggcgtaat
                                                                        720
                                                                        744
catggcatag ctggttcctg ngga
      <210> 309
      <211> 746
      <212> DNA
      <213 > Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(746)
      \langle 223 \rangle n = A,T,C or G
      <400> 309
gnnnntncga ntgggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                         60
                                                                        120
gcagaatteg ceetttegag eggeegeeeg ggeaggtaeg eggggtgaea agtageaaca
tggcttgggt cccctgtgca gcatcagctt atgctgccac aagtcagttt gcaccctagg
                                                                        180
tacccaggag ctagtatect tagatettte tategetaae ttaattetet tegttattta
                                                                        240
                                                                        300
totgaccotc taactocatg totaacttgc attaaaaaaa aaaaaattct ttacagtcaa
                                                                        360
cccaagetta acatggacte aggtteecca geageettaa tttgttttgt taacatetgt
```

<213> Homo Sapien

```
teettetttt teagetetee tagagtattt etgagtgttg tgtteateta atettagtat
                                                                       420
tettttaatt acaaattgae etcacagett gaggttteet gtgtettatt etgtggaeta
                                                                       480
cctgtgctcc tttgcttccc ctcccctcgc ataataacta tattaagaaa ttttttttgg
                                                                       540
ccttgagttg gctggaaaaa aaatataaaa tttaaaaaaa aaannnnnn nnnnaaaaaa
                                                                       600
aaaagteett ggeegggace aenetaangg egaaatteea geacaactgg geggneegtt
                                                                       660
actaagggga atcccnaact tnggnacccn aaacttgggc gtaaaacaat gggncaataa
                                                                       720
                                                                       746
gctggnnncc ctggnggtga aaaatt
      <210> 310
      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(751)
      <223> n = A, T, C \text{ or } G
      <400> 310
gnnnntgana gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                        60
geggeegeca gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                       120
gtacttaatg cetteecet eetggacate agagagaaca eetgggtatt etggeagaag
                                                                       180
tttatatttc tccaaatcaa tttctggaaa aaacgtgtca ctttcaaagt cttgcatgat
                                                                       240
                                                                       300
ccttqtcaca aatagtttaa gatggcctgg gtgattcatg gcttccttat aaacagaact
                                                                       360
gccaccaact atccagacca tgtctacttt atttgctaat tctggttgtt cagtaagttt
taaggcatca tctagacttc tggaaagaaa atgagctcct tgtggaggtt ccttgagttc
                                                                       420
                                                                       480
tctgctgaga actaaattaa ttctaccctt taaaggtcga ttcttctcag gaatggagaa
ccaggtette ttacccataa teaccagatt etgnttacet tetactgaag aagttgtggt
                                                                        540
cattetetgg aaatatetga atteatteet gageggtgge caaggeangt necegttett
                                                                       600
                                                                       660
gccgatgccc atgttctggg acacagcgac gatgcagttt agcgaaccaa ccatgacagc
                                                                        720
aaccgggang accttcgagc cccgttcgnt acaagccccc gcgtaccttn gggccgngaa
                                                                       751
cacgettaag ggegaattne aacacaetgg e
      <210> 311
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(724)
      <223> n = A, T, C or G
      <400> 311
gnnttncnan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                        60
cagaattege cetttegage ggeegeeegg geaggtactt aatgeettte teeteetgga
                                                                        120
catcagagag aacacctggg tattctggca gaagtttata tttctccaaa tcaatttctg
                                                                        180
gaaaaaacgt gtcactttca aagtcttgca tgatccttgt cacaaatagt ttaagatggc
                                                                       240
ctgggtgatt catggcttcc ttataaacag aactgccacc aactatccag accatgtcta
                                                                       300
                                                                        360
ctttatttgc taattctggt tgttcagtaa gttttaaggc atcatctaga cttctggaaa
gaaaatgagc teettgtgga ggtteettga gttetetget gagaactaaa ttaattetae
                                                                        420
cctttaaagg tcgattcttc tcaggaatgg agaaccaggt cttcttaccc ataatcacca
                                                                        480
gattctgttt accttctact gaagaggttg tggtcattct ctggaaatat ctgaattcat
                                                                        540
                                                                        600
tcctgagcgg tggccaaggc angtccccgt tcttgccgat gcccatgttc tgggacacag
cgacgatgca gtttancgaa ccacccatga cagcagcggg aggaccttcg agcccgctcg
                                                                        660
ttacaagccc ccgcgtacct tnggccgcga acaccttang gcgaaattca acacactggc
                                                                       720
                                                                        724
ggcc
      <210> 312
      <211> 738
      <212> DNA
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<220>
      <221> misc_feature
      <222> (1)...(738)
      \langle 223 \rangle n = A,T,C or G
      <400> 312
nnnntttgaa gnctacnact cactataggg cgaattgggc cctctagatg catqctcqaq
                                                                         60
eggeegeeag tgtgatggat atetgeagaa ttegeeettt gageggeege eegggeagqt
                                                                        120
acgcgggggg cagacatggc gacattgaca gtggtccagc cgctcaccct ggacagagat
                                                                        180
gttgcaagag caattgaatt actggaaaaa ctacaggaat ctggagaagt acgttcacta
                                                                        240
attatctaca aggacaaaat cagttgtatt tacaaaactc tacttcagtg tttgttttag
                                                                        300
tttttttttt actgaaactt gtttttgtga atactctgtg cttagaatta aatatcactt
                                                                        360
tcttatgaac aacataactt cttcagattg tgtatatgaa aacattagca agtcttqttt
                                                                        420
tttctatgaa gcaaacacaa ttggtgacaa aggttgtcaa tcatttcttc aaaattataa
                                                                        480
tgcagttcta atggtcagca tattttgata ttaaatttaa agatcacctc tctqcatttq
                                                                        540
tttttaaatt atgctaatac accacacatt atgttggtat gttttggtct gtcctcqqcc
                                                                        600
gcgaccacgc ttanggcgaa ttccagcaca ctggcgggcc gttactagtg gatccgagct
                                                                        660
cggtccaagc tggcgtaatc atggtcatag ctggttcctg tgtgaaatgg tatccgttac
                                                                        720
aattcccaca catacgan
                                                                        738
      <210> 313
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (720)
      <223> n = A,T,C or G
      <400> 313
gnnttncaan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                         60
cagaattcgc cctttgagcg gccgcccggg caggtacgcg ggggggcagac atggcgacat
                                                                        120
tgacagtggt ccagccgctc accctggaca gagatgttgc aagagcaatt gaattactgg
                                                                        180
aaaaactaca ggaatctgga gaagtacgtt cactaattat ctacaaggac aaaatcagtt
                                                                        240
gtatttacaa aactetactt cagtgtttgt tttagttttt tttttactga aacttgtttt
                                                                        300
tgtgaatact ctgtgcttag aattaaatat cactttctta tgaacaacat aacttcttca
                                                                        360
gattgtgtat atgaaaacat tagcaagtct tgttttttct atgaagcaaa cacaattggt
                                                                        420
gacaaaggtt gtcaatcatt tcttcaaaat tataatgcag ttctaatggt cagcatattt
                                                                        480
tgatattaaa tttaaagatc acctctctgc atttgttttt aaattatgct aatacaccac
                                                                        540
acattatgtt ggtatgtttt gntctgtacc tcggccgcga ccacgctaan ggcgaattca
                                                                        600
ncacactggc ngncgttact agtggatccg agctcggacc aaacttggcg taatcatngn
                                                                        660
catagctggt tcctgtgtga aaatggtatc cgttacaatt tcacacacat acgagccgga
                                                                        720
      <210> 314
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (740)
      <223> n = A,T,C or G
      <400> 314
gnnnnttnaa gnctacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                        60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                       120
ctttttttt tttttttt ttagtqcttt ctactttatt aaacatcaaa qcccaaataq
                                                                       180
atgttccctg tggaggagga cttaaggaca ctaggggagg agaaagggac acctqqqaaq
                                                                        240
agaatcacac cacagagacc aatcttcaca aaaagggtcc aatattgatt tctagggagg
                                                                       300
agcagggcat ggtcagctca aatttggtga taacgtcagg atgaaggacc ccaagcttcc
                                                                       360
```

```
cgacgetttg acccetggca aagatetetg cacategeee ggggaagaaa geaggeeett
                                                                          420
ctgatgcttt gatcacatat cccccttgt cttcaccagg aggcacatcg agcaactgca
                                                                          480
taattctgtc cagcagccca tgaatgatct caaacccagg attcttgntg taataaacag
                                                                          540
cactgagatg totgtagttt tttgcaccta catctgnatt agaatctttt attacaatgt
                                                                          600
cagagatttc aaacagtttc agtggaaggg gcatcttacg attgctgcta tggcttcagg
                                                                          660
angccaggaa gaagggtagt gcgtgccacc tgaaattcac tggtttagga tacttatgtg
                                                                          720
gactggcttt gttgcaaaan
                                                                          740
      <210> 315
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (722)
      <223> n = A, T, C or G
      <400> 315
gnnnnnnnn nnnnnntnn atgetgeteg ageggeegee agtgtgatgg atatetgeag
                                                                          60
aattcgccct tagcgtggtc gcggccgagg tactttttt tttttttt ttttagtgct
                                                                          120
ttctacttta ttaaacatca aagcccaaat agatgttccc tgtggaggag gacttaagga
                                                                          180
cactaggga ggagaaaggg acacctggga agagaatcac accacagaga ccaatcttca
                                                                          240
caaaaagggt ccaatattga tttctaggga ggagcagggc atggtcagct caaatttggt
                                                                          300
gataacgtca ggatgaagga ccccaagctt cccgacgctt tgacccctgg caaagatctc
                                                                          360
tgcacatcgc ccggggaaga aagcaggccc ttctgatgct ttgatcacat atccccctt
                                                                          420
gtottcacca ggaggcacat cgagcaactg cataattctg tccagcagcc catgaatgat ctcaaaccca ggattcttgt tgtaataaac agcactgaga tgtctgtagt tttttgcacc
                                                                          480
                                                                         540
tacatctgna ttagaatctt ttattacaat gtcagagatt tcaaacagtt tcagtggaaa
                                                                         600
ggggcatctt acgatttgct gctatggnct tcangaggnc angaaaaagg gtantgcntg
                                                                         660
cccctgaaat tcanctggtt taggattacc tatgtggact ggctttgntg caaaaaaatn
                                                                         720
                                                                         722
      <210> 316
      <211> 753
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(753)
      <223> n = A, T, C \text{ or } G
      <400> 316
gnnnnnttna nagtnnnnac gactcactat aggggcgaac nctctncatg catgctcnan
                                                                          60
cggncnncan ngtgatggat atntgctgan ttcgccctta ccntngcntn ggccgaggcg
                                                                         120
cagnitoceae giningetee neactnennn accgeaggg enengaenen gaeengngnn
                                                                         180
ncnnngngag tnccncagca ctacttggga nggctanagg gaagnttgga aataaaattc
                                                                         240
caaannttqq agtaaaagca atncangcgn ngattatata tgntnnccct ttctgacacn
                                                                         300
ncctagagcq tagggggaac atgngtntat ctgtgggana tnaacaagat ggagtcccaa
                                                                         360
agactttaac aaagntattt cttaannatc cnctacaatn nanaatncat tattcatatn
                                                                        . 420
tactntatgc tgnnagtgag tatntatgct ngtcctattt aaacttgnga gaanaagtgg
                                                                         480
tntcccttga tacattnaga aatatggggg ctatcttgnt ncattgtggg ggtggggcan
                                                                         540
aagganaatn aatgcangat gaccetgttg aangaatett aacatggeea acanggggae
                                                                         600
ngtttacagt cgattaccag gaaangcaag ccttggggtt tctactgcng gtgggggctg
                                                                         660
tcatgaactt naaaatccan agnctatacc aggaaaaagt gttangaccc aattgaaang
                                                                         720
ctntccaccc tttcttttnn tttgttccng cnc
                                                                         753
      <210> 317
      <211> 893
      <212> DNA
      <213> Homo Sapien
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```
<220>
      <221> misc feature
      <222> (1) ... (893)
      <223> n = A, T, C or G
      <400> 317
gtgnnntntn cnaaatggnc cntttnaatg cctncctcga gcgggccgcc agtgtgatgg
                                                                         60
atntntaatt cgnccttagc gtggtcgcgg ccgnngtacn aangaaataa aantnacagt
                                                                        120
ntcaaagaac caaantaagt cggacacaaa cccctgtcac cannagagtc ccatanacat
                                                                        180
aannnggntg ntgtcaagna ggattnaaat taactttaac aacnttntat ataatgctac
                                                                        240
attccccaat taataaagga nagttcacat atacanctaa ntgntaattg tggaaanaag
                                                                        300
ggtgaaantn tgcatantta atannaaana atgctgaang cttttncata nnattnnctt
                                                                        360
aaaaatncac ttncnatgca gcantangtn tacatgctta atntatcntg cnagtgattn
                                                                        420
ntatgcttgt cctacatgac ntaccttgaa caactggnac tncccagatt catactgaaa
                                                                        480
tatggggncg ntaantaint tgggancggn annachtgaa tcctcaaagg atannnnntn
                                                                        540
tccagntgga tgaaaccnat nattnaaang gatatnntna accatnggan cgaatgnncg
                                                                        600
nngntetttt teaatnntne qnqaaqntne ennttnnata neeegnggge eneattgngg
                                                                        660
ggnntatntn neaateaann cenngagntg tntnntentt entenacege ataacettit
                                                                        720
gccataggga accttntttn aacccctttg gnttatnggg aaanaannnn nnttttaaat
                                                                        780
tcnccaaaat ngggaaaaan aaccettnte actetaaaaa nttancenta gacetanttn
                                                                        840
tngngncata tttgntaaac nctatggncc ctcnagnggg gnnctgggnc nnc
                                                                        893
      <210> 318
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (744)
      <223> n = A, T, C \text{ or } G
      <400> 318
gnnnngattg tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
                                                                         60
ggccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                        120
acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc
                                                                        180
acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca
                                                                        240
ttctctctga agtctaggtt acccattttg gggacccatt ataggcaata aacacagttc
                                                                        300
ccaaagcatt tggacagttt cttgttgtgt tttagaatgg ttttcctttt tcttagcctt
                                                                        360
ttcctgcaaa aggctcactc agtcccttgc ttgctcagtg gactgggctc cccagggcct
                                                                        420
aggetgeett etttteeatg teccaeccat gageetteea etggaeaget eagtaageet
                                                                        480
ggcccttcat tctgcgctgt gttcttcctc tgtgaaaatc caatacctct tacctcctct
                                                                        540
gcatgcaaag attctcaagg attgtcagac ttcaaacgta acagcagaac caccagaagg
                                                                        600
tcctataaat gcagtagtga ccttctcaag ctgtcanggc tttaaatagg atttgggatt
                                                                        660
                                                                        720
taatgctatg tatttttaaa ggaaagaaat aagagttgct agttttaaaa atgcatgtct
                                                                        744
tttaccaatt canaatctgg cccc
      <210> 319
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(720)
      \langle 223 \rangle n = A,T,C or G
      <400> 319
gngtttaaac cttcttanng ctgctcgagc ggccgccagt gtgatggata tctgcagaat
tegecettte gageggeege eegggeaggt aceteattag taattgtttt gttgttteat
                                                                        120
                                                                        180
ttttttctaa tgtctcccct ctaccagctc acctgagata acagaatgaa aatggaagga
```

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cagccagatt totootttgc tototgctca ttotototga agtotaggtt accoattttg
                                                                        240
gggacccatt ataggcaata aacacagttc ccaaagcatt tggacagttt cttgttgtgt
                                                                        300
tttagaatgg ttttcctttt tcttagcctt ttcctgcaaa aggetcactc agtcccttgc
                                                                        360
ttgctcagtg gactgggctc cccagggcct aggetgcctt cttttccatg tcccacccat
                                                                        420
gagccctcca ctggacagct cagtaagcct ggcccttcat tctgcgctgt gttcttcctc
                                                                        480
tgtgaaaatc caatacctct tacctcctct gcatgcaaag attctcaagg attgtcagac
                                                                        540
ttcaaacgta acagcagaac caccagaagg tcctataaat gcagtagtqa ccttctcaag
                                                                        600
ctgtcanggc tttaaatagg atttgggatt taatgctatg tatttttaaa ggaaagaaat
                                                                        660
agagttgcta gttttaaaaa tgcatgtctt ttaaccaatt cagaatctgg ccccnaactt
                                                                        720
      <210> 320
      <211> 694
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (694)
      <223> n = A, T, C or G
      <400> 320
atgetegage ggneggeant gtgatggatn tetgeagaat tegecettte gageggeege
                                                                        60
ccgggcaggt actattccgg atatacaaga tcactgggag atgttgatga tggagacaca
                                                                        120
gtgacagatt tcatggccca agagcgagaa agaggcntta ctattcaatc agctgctgtt
                                                                        180
acatttgatt ggaaaggtta tagagtcaat ctaattgata caccaggtca tgtggacttt
                                                                       240
accttggagg ttgagcggtg cctaagagtg ttggatggtg cantggctgt atttgatgcc
                                                                       300
tctgctggtg tagaggccca gactntcaca gtatggaggc aagctgataa acacaatata
                                                                       360
cctcgaatct gtttttaaa caagatggac aaaactggag caagctttaa gtatgcagtt
                                                                       420
gaaagcatca gagagaagtt aaaggcaaag cctttgcttt tacagttacc aattggtgaa
                                                                       480
gccaaaactt tcaaaggagt ggtggatgta gtaatgaang aaaaacttct ttgggaattg
                                                                       540
caattcaana tgatggaaaa gactttgaga gaaagcccct cttggaaatg aatgatcctg
                                                                       600
aattgctgaa ggaaacaact gaacaaggaa tgccttaatt gaacaaagtt gcagatttgg
                                                                       660
atgatgaatt tgctgacttg gttttaagaa gaat
                                                                       694
      <210> 321
      <211> 781
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(781)
      <223> n = A,T,C or G
      <400> 321
gngttnacna ntgggccctc tngatgctgc tcgagcggcc gncagtgtga tggatntctg
                                                                        60
cagaatnege cetnegggeg geegneeggg caggtactat neeggatata caagateact
                                                                       120
gggagatgtt gatgatggag acncagngac agatttcatg gcccaagagc gagaaagagg
                                                                       180
cnttactatn caatcagctg ctgttacatt cgattggaaa qqttatngag tcaatctaat
                                                                       240
tgatncacca ngtnatgtgg actttacctt ggaggttgag cggtgcctaa nagtgttgga
                                                                       300
tggtgcanng gctgtatttg atgcctctgc tggtgtagag gcccagactc tcacagtatg
                                                                       360
gatgcaagct gataaacaca atatacctng aatctgtgtt ttaaacaaga tggacaaaac
                                                                       420
tggagcaagc tttaaagtnt gcagttgaaa gcatcagaga gangttnaag gcanagcctt
                                                                       480
tgcttttaca gtttcccaat tgggtgaaac ccaaaacttt tcaaaqggag ttgqttqgat
                                                                       540
tgtaagtaat gaaaggaaaa acttctttgg gaaantggca atttcaanat gattggaaaa
                                                                       600
ngacttttgg gagaaaagcc ccttcttggg aaaatngaaa tqatncctga aatttqcnqt
                                                                       660
aaanngaaaa cnaacntgna atccaangga attncccttt aanttggaac aaaggnttgc
                                                                       720
naanttttng attgaatnga atttgncnga cntttnggtt ttangaaaga aattaaagng
                                                                       780
                                                                       781
q
      <210> 322
```

<211> 744

```
<212> DNA
       <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A,T,C or G
      <400> 322
gnnntganag tatcgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                         60
gcccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                        120
acgcggggac tgggtttttc tccttttgta gccttttcct ttagtctcct cttcccggtg
                                                                        180
gttggtaaaa agaggtgaat tgacagccta tgttgaagac actgtgcttt tctcaagaag
                                                                        240
gacatccaaa cagcaagtct acttctttct ctttaacgat gtgctcatta tcaccaagaa
                                                                        300
gaagagtgaa gaaagttaca acgtcaatga ttattcctta agagatcagc tattggtgga
                                                                        360
atcttgtgac aatgaagagc ttaattcttc tccagggaag aacagctcca caatgctcta
                                                                        420
ttcaagacag agctctgcca gtcacctctt tactctgaca gtccttagta accacgcgaa
                                                                        480
tgagaaagtg gagatgctac taggagctga gacgcagagc gagcgagccc gctggataac
                                                                        540
tgccctggga cacagcagcg ggaagccgcc tgcagaccga acctnactga cccaggtgga
                                                                        600
aatcgttagg tcatttactg ctaagcagcc agatgaactc ttcctgcagt ggctgacgtc
                                                                        660
gtcctcatct atcaacgtgt cagcgatggc tggtatgaag gggaacgact tcgagatgga
                                                                        720
gaaagaagnt gggttcctat ggaa
                                                                        744
      <210> 323
      <211> 723
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(723)
      <223> n = A, T, C or G
      <400> 323
gtgtttcaan cggtcctcta gatgctgctc gagcggccgc cagtgtgatg gatatctgca
                                                                         60
gaattegece titegagegg cegeceggge aggtacgegg ggactgggtt titeteettt
                                                                       120
tgtagccttt tcctttagtc tcctcttccc ggtggttggt aaaaagaggt gaattgacag
                                                                       180
cctatgttga agacactgtg cttttctcaa gaaggacatc caaacagcaa gtctacttct
                                                                        240
ttctctttaa cgatgtgctc attatcacca agaagaagag tgaagaaagt tacaacgtca
                                                                       300
atgattattc cttaagagat cagctattgg tggaatcttg tgacaatgaa gagcttaatt
                                                                       360
cttctccagg gaagaacagc tccacaatgc tctattcaag acagagctct gccagtcacc
                                                                       420
tctttactct gacagtcctt agtaaccacg cgaatgagaa agtggagatg ctactaggag
                                                                       480
ctgagacgca gagcgagcga gcccgctgga taactgccct gggacacagc agcgggaagc
                                                                       540
cgctgcagac cgaacctcac tgacccaggt ggaaatcgtt aggtcattta ctgctaagca
                                                                       600
gccagatgaa ctcttcctgc angtggctga cgtcgtcctc atctatcaac gtgtcancga
                                                                       660
tggtggtatg aaggggaacg actacnagat ggagaaagaa gctggtttcc tatggaatgt
                                                                       720
gcc
                                                                       723
      <210> 324
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A,T,C or G
      <400> 324
gggnttgaag nenegaetea etatagggeg aattgggeee tetagatgea tgetegageg
gcccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                       120
cttgagatct gagcaactgt gttaatgaag taatagcaat ggtccacagt gaaagatgtg
                                                                       180
```

```
ttggggtttg caaaacaagc attccgtcac ctctttaata atgtcacaga cttttttaaa
                                                                        240
agagaggcta tcaagttgta atataatctg tcatgtttta tttaggaagg aaggtaaatt tgtgcttgca cggggatcat tttgtattat ttntgctaat acccagttga agctaaaaag
                                                                        300
                                                                        360
caactatttg aatcctgtga attaatttat aagaatgtta aacagctntg gaaatacatg
                                                                        420
catcttatga atcatagcct tatttagcaa gatcaatgtt aaagtgttga tatatggcaa
                                                                        480
gtatttaaca cattcacagt gntagtttga tttcaactgt gaattqtctt acagtttttt
                                                                        540
caaacctagt gintciatgg acacctgctc tgaattgtac ccctcagtca ccaccaaagc
                                                                        600
atttncaccc ctttcaaccc ccaatcagac cantgctttc agtggtattg gaggacttnt
                                                                        660
atcacagett catnangtgg tettggcaca ggcagnetga etngettngg aactggtget
                                                                        720
tttggactcc cttcaanngn aatant
                                                                        746
      <210> 325
      <211> 742
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(742)
      <223> n = A,T,C or G
      <400> 325
gtgtttcann cggccctcta gatgcatgct cgagcggccc gccagtgtga tggatatctg
                                                                        60
cagaattcgc ccttagcgtg gtcgcggccg aggtaccttg agatctgagc aactgtgtta
                                                                       120
atgaagtaat agcaatggtc cacagtgaaa gatgtgttgg ggtttgcaaa acatgcattc
                                                                       180
cgtcacctct ttaataatgt cacagacttt tttaanagag aggctatcaa gttgtnatat
                                                                       240
aatctgtcat gtattattta agaaggaagg taaatntgtg cttgcacggg gatcattttg
                                                                       300
nattattnct gctnataccc agctgaagct nanaancnac tntttgnatc ctgtgantta
                                                                       360
atnoatanna atgttanaca gotntggaaa tocatgooto ttatgaatoa tngoottatt
                                                                       420
tancangate aatgttaaag ntgttgatat nnggcaagtn tntaacacat tnacantget
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agtntgattt caactgngaa ttgncttacc gtntttnnaa acctananga atntatngac
                                                                       540
acctnetetn aatngnnnee eteaaneace aenaaanett ttnenneeet tneaaceeee
                                                                       600
natchgacch chgcattcag thghaanchg aangactttc atcacaactg ghcaanatht
                                                                       660
nggactttgg cgccatgcnn accetettgg netttngaac nnggttgeet tttnggaett
                                                                       720
tncncctqnq ngataaccac cn
                                                                       742
      <210> 326
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(747)
      <223> n = A, T, C or G
      <400>, 326 ·
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ggccgccagt gtgatggata tctgcagaat tcgccctttc qaqcqqccqc ccqqqcaqqt
                                                                       120
actgtatcat tggcagatgt gacgtcaccg acaaccagag tgaagtggcg gacaaaactg
                                                                       180
aggattacct gtggctgaag ttgaaccaag tgtgttttga cgacgatggc accagctccc
                                                                       240
cacaagacag gctcactctc tcacagttcc agaagcagtt gttggaagac tatggcgagt
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cccactttac ggtgaaccag caaccettcc tctacttcca agtcctgttc ctgacagcgc
                                                                       360
420
atgtagcact ggtgctgttt gagctgaagc tgcttttaaa gtcctctgga cagagtgctc
                                                                       480
aacteeteag ceaegaacet ggtgaceett ettgettgeg geggetgaac ttegtgegge
                                                                       540
tecteatget gtacetegge egngaceaeg etaagggega attecageae aetggeggne
                                                                       600
gttactagtg gatccgagct cggtaccaaa cttggcgtaa tcatggncat agctggttcc
                                                                       660
tgtgtgaaat ggtatccgtt acaatttcac acaacatacg agccgggaag catnaagtgt
                                                                       720
naaacctggg gtgcctnatg agtgacn
                                                                       747
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<211> 724
       <212> DNA
       <213> Homo Sapien
       <220>
      <221> misc feature
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       <400> 327
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aattcgccct ttcgagcggc cgcccgggca ggtactgtat cattggcaga tgtgacgtca
                                                                           120
ccgacaacca gagtgaagtg gcggacaaaa ctgaggatta cctgtqqctq aaqttqaacc
                                                                           380
aagtgtgttt tgacgacgat ggcaccagct ccccacaaga caggctcact ctctcacagt
                                                                           240
tecagaagea gttgttggaa gaetatggeg agteecaett taeggtgaac eageaacet
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tcctctactt ccaagtcctg ttcctgacag cgcagtttga agcagcagtt gcctttcttt
                                                                           360
tccgcatgga gcggctgcgc tgccatgctg tccatgtagc actggtgctg tttgagctga
                                                                           420
agetgetttt aaagteetet ggacagagtg etcageteet cagecacgag eetggtgace
                                                                           480
etecttgett geggeggetg aacttegtge ggeteeteat getgtaeete ggeegegaee
                                                                           540
acgctaaggg cgaattccag cacactggcg gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctgtt tcctgtgtga aattgtatcc gctcacaatt
                                                                           600
                                                                           660
ncacacaaca tacgagccgg aagcataaag tgtaaaacct ggggtgccta atgagtgaac
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taan
                                                                           724
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      <221> misc feature
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      \langle 223 \rangle n = A,T,C or G
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gcccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                           120
ttttttttt tttttaaag acagagtett getetgteac ecaggetgga gtgeagtgge
                                                                           180
acgatetegg etcaetgeaa getetgeete eegggtteae geeattetee tgeeteagee
                                                                           240
tecegagtag etgggaetae aggtgeeege caccatgeee ggetgattte titttgtatt
                                                                          300
tttagtagag acggagtttc accgtgttag ccaggatggt ctcgatctcc tgacctcqtq
                                                                          360
atccgcccgc cttggcctcc aaagtgctgg gattacaggt gtgagctacc gcgcccggcc
                                                                          420
tattatettg tactttetaa etgageeete tattttettt attttaataa tattteteee
                                                                          480
cacttgagaa tcacttgtta gttcttggta ggaattcagt tgggcaatga taacttttat
                                                                          540
gggcaaaaac attctattat agtgaacaaa tgaaaataac agcgtatttt caatattttc
                                                                          600
ttatteetta aatteeacte tittaacaet aigettaace aettaatgtg atgaaatatt
                                                                          660
cctaaaagtt aaatgactat taaagcatat attggtgcat gnatatatta aagtacccga
                                                                          720
tactctaaat aaaaatccac tggtccn
                                                                          747
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      <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(725)
      <223> n = A,T,C or G
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agaattcgcc cttagcgtgg tcgcggccga ggtacttttt ttttttttt taaagacaga 120

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gtcttgctct gtcacccagg ctggagtgca gtggcacgat ctcggctcac tgcaagctct
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 gcctcccggg ttcacgccat tctcctgcct cagcctcccg agtagctggg actacaggtg
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 cccgccacca tgcccggctg atttctttt gtatttttag tagagacgga gtttcaccgt
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 gttagccagg atggtctcga tctcctgacc tcgtgatccg cccgccttgg cctccaaagt
                                                                            360
 gctgggatta caggtgtgag ctaccgcgcc cggcctatta tcttgtactt tctaactgag
                                                                            420
 coctetattt tetttatttt aataatattt etececaett gagaateaet tottagttet
                                                                            480
 tggtaggaat tcagttgggc aatgataact tttatgggca aaaacattct attatagtga
                                                                            540
 acaaatgaaa ataacagcgt attttcaata ttttcttatt ccttaaattc cactctttta
                                                                            600
 acactatgct taaccactta atgtgatgaa atattcctaa aagttaaatg actattaaag
                                                                            660
 catatattgg tgcatgtata tattaagtag cccgatctct naataaaaat ccactggtac
                                                                            720
 agata
                                                                            725
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       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) ... (741)
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                                                                             60
                                                                            120
tttttttttt tttttttt tttttttt ggaagtttaa tttactcaca gttcaacatg
                                                                            180
gctggggagg cctcaggaaa tttacaatta taacagaagg caaaggggaa gccagatacc
                                                                            240
ttcttcacaa ggtggcagga aggagaagag ccgagagaag gcggaagaat cccttataaa
                                                                            300
accatcagat ctcgtgagaa ctcacttgct atcaggagaa cagcatgggg gaaccgcccc
                                                                            360
caggattcaa tgacctncac ctggtctctc ccttgacacg tgaggattat ggggattaca
                                                                            420
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                                                                           480
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gcctggtatg ttcagatagc ancaagtagg ccagantggc cggaggggag taagtgtggg
                                                                           540
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gaggccagtg ganagatgag ggtagggaag ggatggatca gatcatgcag ggccccgggg
                                                                           660
gccacaggaa ngacctnagc atttactgca agtaangtgg gaaccatcga atgtctaagc
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naggaggaat ccctgtgact c
                                                                           741
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       <211> 727
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       <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(727)
      <223> n = A,T,C or G
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ttttttggaa gtttaattta ctcacagttc aacatggctg gggaggcctc aggaaattta
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caattataac agaaggcaaa ggggaagcca gataccttct tcacaaggtg gcaggaagga
                                                                           240
gaagagccga gagaaggcgg aagaatccct tataaaacca tcagatctcg tgagaactca
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cttgctatca ggagaacagc atgggggaac cgccccagg attcaatgac ctccacctqq
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teteteett gacacgtgag gattatgggg attacaatte cagatgagat ttgggtgggg
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acacaaagcc aaaccatatc aactgtgact accttgggta agggccatcc aggcagaggc
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agggggaaca ttctgggcaa aggccttggg gcaggggcct ggtatgttca gatagcagca
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agtaggccag antggccgga ggggagtaag tgtggggagg ccagtggaaa aatganggta
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gggaaaggga tggatcagat catgcagggc cccgggggcc acangaagga cctnacattt
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actgcaagta angtgggagc catcgaatgt tctaagcana ngangaatcc ctgngactca
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ngtqttn
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<210> 332
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      <221> misc feature
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accetteteg ettttgecat tagecaagga tagaagetge agtggtatta attttgatat
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aatctttcaa accagcttca tgtggcttcc cttttctttg ttcaagatga gggccaggag
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gggaaacatc acacctgcc taaaccctgt tcctggaggt cagcatttga tctqttqcaa
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gcccctcttt ctgtcccctc ttcctaccct gcctcccatg actttgctcc tcacactttt
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                                                                        420
gagtgtgtga taaatcagtc aagctgttga agtctcagga gtctctggta gcctgcagaa
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gtaagcetca teateagage ettteeteaa aactggagte ecaaatgtea teaggttttq
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                                                                        600
gatctaacat cttgaatact ctgccctcta gaccttcacc ttaatggaan gtggatccca
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nganggtgta atggacatca agccactcgc ggcagcatgg agctatacta agcatcctta
                                                                        720
nggtctgcct ctcn
                                                                        734
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      <211> 710
      <212> DNA
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      <221> misc_feature
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ctttcgagcg gccgcccggg caggtaccct tctcgctttt gccattagcc aaggatagaa
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gctgcagtgg tattaatttt gatataatct ttcaaaccag cttcatgtgg cttccctttt
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ctttgttcaa gatgagggcc aggaggggaa acatcacacc tgccctaaac cctqttcctq
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gaggtcagca tttgatctgt tgcaagcccc tctttctgtc ccctcttcct accctqcctc
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ccatgacttt getectcaca ettttggaac catgeettee gggggggeee atetettetg
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gccgtccttg tctctgggcc acttggagtg tgtgataaat cagtcaaqct qttgaaqtct
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caggagtete tggtageetg cagaagtaag ceteateate agageettte etcaaaactg
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aactctagaa tttgggcttg gaccagatct aacatcttga atactctgcc ctctagagcc
                                                                        600
ttcagcctta atggaagggt ggatccaang anggtgtaat ggaacatcaa gccactcgcg
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```

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					aaaaaacaca	420
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		gattcacaaa				720
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<212> DNA

<213> Homo sapien

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